LOW-COST AIR CARRIERS COMPETING ON LONG-HAUL MARKETS? THE CASE STUDY OF SINGAPORE (SIN) – MEBOURNE (MEL) ROUTE

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Summary: The long-haul operation was perceived as the last bulwark, capturing the respective markets with air services for traditional carrier, however, low-cost air carriers have expanded on long-haul markets recently. In this paper, we compare the competitive weapons of air carriers which operated direct flights on the O-D route Singapore – Melbourne, long-haul low-cost carriers including. The carriers are compared in terms of frequencies, duration of flights, prices and offered classes to passengers. Considering the interlinkages among the carriers, whether based on ownership and/or horizontal cooperation, we reveal two dimensions of competition on the analysed O-D and recommend to tackle more.fragile edges in the triangle of cooperation, competition and coopetiion in the airline industry by regulatory and competition bodies.

Key words: air services, low cost airlines, long-haul routes, competition, market concentration, product policy

INTRODUCTION

When the era of liberalisation on markets with air services had started in the US in 1978, nobody could fully anticipate how the competition of air carriers would impact on the airlines industry. During more than four decades of liberalisation, the growing competition of air carriers brought remarkable business innovations. Many of them have even leaked out other industries. The innovations were mainly recorded in the way how the airlines´ product was designed, alikes in terms of (de)bundling, pricing, customer relationships, distribution channels, horizontal cooperative arrangements etc. While the emergence of low-cost concept in the delivery of air services had been the first evidence of "the innovative spirit" of liberalisation, the revenue management implemented by American Airlines in eighties was the further one. Responding to the competition of new entrants, traditional carriers implemented frequent flyer programmes and, in nineties, allying airlines in strategic global alliances became reality. However, at the present time, there are not so strict boundaries between

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traditional, i.e. historic (legacy) airlines and new entrants on the market with air services, which are still conventionally denoted as low-cost carriers (LCCs). In the era of liberalisation, the co-existing business models of airlines were interacting each other and both groups of the carriers are now as if they were interwoven and hybridized (1),(2),(3),(4). Despite of the complexity of hybridisation, the long-haul operation was perceived as the last bulwark, capturing the respective markets with air services for traditional carriers. In this paper, we shall examine the competition of low-cost carriers against traditional carriers on the specific long-haul route Singapore – Melbourne. We shall start with a brief review of academic literature aimed at so-called long-haul low-cost business model. Consequently, we shall compare the competing carriers on the route, using the data on supplied capacities and frequencies of flights, duration of flights, product´s policies and prices. Thus, we shall be particularly focused on how the analysed long-haul low-cost compete with their traditional rivals in terms of main decisive competitive weapons in the airline industry: time, quality and prices. Special consideration will be given to such competition issues as horizontal cooperation in the form of alliances or other forms of partnerships among airlines. In the conclusions, we shall discuss the obtained results mainly in the optics of regulatory policy and future evolution of markets with long-haul air services.

1. THE REVIEW OF ACADEMIC LITERATURE ON LOW-COST LONG-HAUL CARRIERS

In the provision of long-haul flights, traditional carriers exploit several economies (scale, density and scope). The economies stem from the hub-and-spoke network´s concept of their operation and massive horizontal cooperation within three global alliances. Thus, feeding their hubs by spokes, traditional carriers dominated market with long-haul air services for a long time and low-cost carriers operated mainly short-haul and medium-haul markets. However, at the present time, the airline industry is in a state of flux. Several low-cost carriers entered the long-haul markets, providing flights which are declared by these carriers as long-haul low-cost air services. Paradoxically, the low-cost long-haul business model had been pioneered before the liberalisation of air markets started in the US. Back in 1977, British air service operator Laker Airways redesigned its charter air operation and began to operate scheduled long-haul services between London Gatwick and New York, and later also between London Gatwick and Los Angeles and Miami. The operation of Laker Airways was characterized by several attributes typical for low-cost business model such as point-to point service, no frills and high density single class seating (5). Although Laker Airways exited the market, the above mentioned attributes were in turn very successful on short-haul and medium-haul routes when the era of liberalisation commenced (6). Materna and Tomová (2016) brought the overview of succesfull and failed long-haul low-cost carriers, focusing on how they were established (7). According to their findings, the low-cost long-haul carriers were established by miscellaneous modes: as start-ups (Silverjet, Zoom Airlines etc.), joint ventures (Indonesia AirAsia X, Thai AirAsia X), airline within airlines (Air Asia X, Norwegian Long Haul) and by broadening (or re-designing) the product´s portfolio of existing low-cost carriers (People Express, JetStar Air-ways). They argued that commercially successful "long-haul low-cost" carriers were of hybridised nature more than low-cost. This presupposition had been already raised by Francis et al. (2007) who expected that only several features of the archetypical low-cost carrier´s model could be easily transferred to long-haul routes (8). In research circles, we see the oscillation between two attitudes with regard to the commercial vitality of long-haul low-cost business model. The former can be labelled as hesitative scepticism (5), (9), while the latter can be named as moderate optimism (10), (11). On the other side, there is an indubitable reality of expanding long-haul low-cost operation of air services. Several European, Australian and Asian low-cost carriers are operating air services on long-haul routes and this encourages the research track aimed at the competitive advantages of such business model. De Poret et al. (2015) proved the potential for sustainable cost advantages of long-haul low-cost transatlantic operation and outlined the importance of further interlinked issues which are inevitable for vital long-haul low-cost operation of air services (12). These issues are rationale product debundling, ancillary revenues´ generation, demand segments, route strategies, the role of feeding traffic, etc. Despite of the existence of research focused on long-haul low-cost carriers, there is still a lack of case studies which would deliver a factual knowledge, originating from the concrete O-D long-haul markets on which air carriers labelled as "low-costs" operate air services.

2. DATA AND METHODOLOGY

To perform our case study, we gathered the data on scheduled direct flights on the origin-destination (O-D) route between Singapore (SIN) and Melbourne (MEL) covering the week February 19 and February 25, 2018. The investigated O-D route with the distance 6,026 kilometres corresponds to the standard of ICAO for long-haul flights. The route is of international nature, i.e. the operation of air services on the route is regulated by the respective air service agreements among the respective countries (13). As markets with air services are not only geographically driven, i.e. O-D related, but also time related (14), in our analysis we also distinguished the respective "daily markets" during the studied week and the week as a whole as well. We focused only on the supply of one-way direct flights in the chosen citypair connection, ignoring in this way the vast list of potential indirect itineraries of passengers. To analyse time as a competitive weapon, we used the following ratios and indices of market concentration based on frequencies (15): the share of the biggest carrier on the route, the share of low-cost competitors, the concentration rate (CR) in the form of CR2 as only five competitors which offered direct flights on the route were identified by us; moreover, we included Herfindahl-Hirschman index (HHI) in our market concentration analysis. All mentioned market concentration ratios were also computed alternatively, using the number of available seats. This approach is in line with the theory of S-curve, according to which the share of an airline in terms of supplied capacity (frequencies and/or seats) on a market predetermines its market share expressed in the number of transported passengers or revenues generated by transported passengers (16). When investigating the product´s policies of airlines, we compared the number of offered classes for passengers as well as the presence of "fly only" classes addressed to passengers with high sensitivity to price. The prices for the flights were obtained as one-way ticket prices on the assumption of the booking date February 10, 2018. All prices were converted in EUR, using the http://xe.com/currency on the assumption of the chosen conversion day - February 10, 2018. When comparing the prices, we used only an illustrative example of min and max prices because the respective data set of the one-way air ticket prices was robust, exceeding the scope of the paper. Hence, our analysis was aimed at the comparison of time (frequencies, duration of flights), prices, and quality (the number travel classes and fly only classes´ offer) which are perceived as main competitive weapons of airlines on liberalised markets with air services in general, long-haul air services including.

3. RESULTS AND FINDINGS

3.1 Competitors on the route

According to our findings, five competitors were operating direct flights between Singapore and Melbourne within the studied week as Table 1 informs.

Tab. 1 - The overview of the analysed competitors on the route Singapore – Melbourne

Competitor	Business Model	Nationality	Allied in alliance	Aircraft operated on the route	Duration of flights
SCOOT	dedicated long-haul low-cost airline,a daughter of Singapore through a subsidiary	Singapore	a member of Value Alliance	B787-8 B787-9	7h 40min
QANTAS	traditional airline	Australia	a member of One World	A330-200 A330-300	7h 35min
EMIRATES	traditional airline	United Arab Emirates	not allied	A380-8	7h 25min
SINGAPORE AIRLINES	traditional airline	Singapore	a member of Star Alliance	A330-3 A350-9 B777-3ER	7h 25min
JETSTAR AIRWAYS	low-cost airline, a daughter within Qantas Group	Australia	not allied	B787-8	7h 20min

Source: Own compilation

Five airlines were operating direct flights on the route within the analysed week. Among the competitors on the studied O-D market, we have found Scoot - a long-haul low-cost carrier, which is allied in the newly formed internation-al alliance of Asian low-cost carriers Value Al-liance (17), (18) and JetStar Airways as well. Moreover, Scoot is owned by Singapore Airlines while JetStar is a daughter company of Qantas, what raises a question about competitive effects of common owner-ship of airlines on markets (19). The presence of Emirates on the O-D market must be interpreted in the light of the horizontal cooperative partnership between Emirates and Qantas, which is denoted as “Qantas – Emirates alliance” and the switch of Emirates from Dubai as a hub to Singapore for Emirates´ Europe-bound flights.

3.2 Competitive weapons of rivals

3.2.1 Competing by frequencies and capacities?

The computed market concentration ratios and indices are presented in two tables. Table 2 informs on the respective market concentration results based on frequencies, i.e. the number of flights offered by the carriers, while Table 3 contains the market concentration results when available seats supplied by the carriers on the route were used. Both tables contain the results computed on carrier per carrier basis.

Tab. 2 - The market concentration data on the route Singapore – Melbourne (based on frequencies)

The analysed period	The biggest carrier and its market share	CR2[2]	The share of low-cost carriers	HHI	The number of competing airlines
MON February 19, 2018	Singapore Airlines 55.6 %	-	22.2%	0.359	5
TUE February 20, 2018	Singapore Airlines 66.7 %	-	0%	0.449	3
WED February 21, 2018	Singapore Airlines 66.7 %	-	0%	0.449	3
THU February 22, 2018	Singapore Airlines 50 %	-	25%	0.312	5
FRI February 23, 2018	Singapore Airlines 50 %	70%	20%	0.320	5
SAT February 24, 2018	Singapore Airlines 55.6 %	77.8%	11.1%	0.383	4
SUN February 25, 2018	Singapore Airlines 44.4 %	66.7%	22.2%	0.284	5
The week	Singapore Airlines 54.4%	71.9%	15.8%	0.354	5

Source: Own compilation

As Table 2 shows, the presence of low-cost carriers on the analysed route impacts on the market concentration ratios significantly if the carrier per carrier´s optics is taken. Although the market shares of the biggest airline in terms of operated flights from Singapore to Melbourne were still high in all analysed days, the day per day analyses clearly reveal how the low-cost airlines on the analysed market decreased the market concentration measured by HHI and decrease the market share of dominant Singapore Airlines. In comparison with their traditional counterparts, low-cost rivals on the market represented by Jetstar Airways and Scoot did not operate the flights every day within the analysed week, focusing thus on the days which are time-attractive for customers. Remarkably, Scoot´s policy in terms of the number of operated flights per week is more over copying the frequencies´ policy of the dominant carrier on the market, however, on the lower levels of the respective values. This underthrusts the discussion about coopetition between traditional airlines and their long-haul low-cost daughters and the impacts of such coopetition on customers and functioning the competitive forces on markets. However, the results need to be interpreted differently, if ownership, partnership and alliance´s membership are taken into account. In such consideration, there are two groups of rivals competing each other: Singapore and Scoot on one side and Qantas, Emirates and JetStar Airways on the other side. The composition of both competing groups is based on different forms of mutual cooperative schemes. In this arrangement, there are two rivals – groups of airlines cooperating through cooperative agreements and/or interlinked through ownership. Thus, the O-D market is shared by the groups of airlines what indicates the market is de-facto more concentrated as the analysis realized on the basis of carrier per carrier reveals.

Tab. 3 - The market concentration data on the route Singapore – Melbourne (based on the number of supplied seats)

The analysed period	The biggest carrier and its market share	CR2	The share of low-cost carriers	HHI
MON February 19, 2018	Singapore Airlines 49.09 %	66.95 %	24.47 %	0.310
TUE February 20, 2018	Singapore Airlines 57.34 %	85.33 %	0 %	0.429
WED February 21, 2018	Singapore Airlines 59.39 %	86.82 %	0 %	0.445
THU February 22, 2018	Singapore Airlines 41.64 %	61.97 %	26.35	0.263
FRI February 23, 2018	Singapore Airlines 44.67 %	61.48 %	22.27 %	0.239
SAT February 24, 2018	Singapore Airlines 48.38 %	67.89 %	13.50 %	0.325
SUN February 25, 2018	Singapore Airlines 38.88 %	57.45 %	24.60 %	0.248
The week	Singapore Airlines 47.46 %	67.93 %	23.28 %	0.303

Source: Own compilation

The impact of the low-cost carriers´ presence on the market concentration is even more significant if it is measured through the shares of the analysed carriers in supplied seats on the route. In all observed cases, the respective values of HHI, measured through the capacity in seats, are lower than the values of HHI, which were based on the number of frequencies. This shows that the low-cost carriers use more capacities in seats than frequencies to attract passengers. This also indicates that low-cost carriers on the route orientate themselves more on the segments of passengers which are less-sensitive to frequencies (and more to prices). This strategy is also reflected in the carriers´ aircraft policy as it is contained in Table 1. Nevertheless, Singapore Airlines kept the highest market shares in the analysed days and the analysed week in terms of supplied seats on the route. The respective values of HHI confirm that the daily markets are concentrated with the exemption of February 25, 2015 when the HHI slightly decreased below 0.25. Considering the ratios through the optics of airlines commonly owned and cooperating each other, i.e. Singapore Airlines together with Scoot on one hand side and Qantas together with JetStar and Emirates on the other hand side, the concentration of the analysed O-D market is significantly different, delivering the values of more concentrated market de-facto.

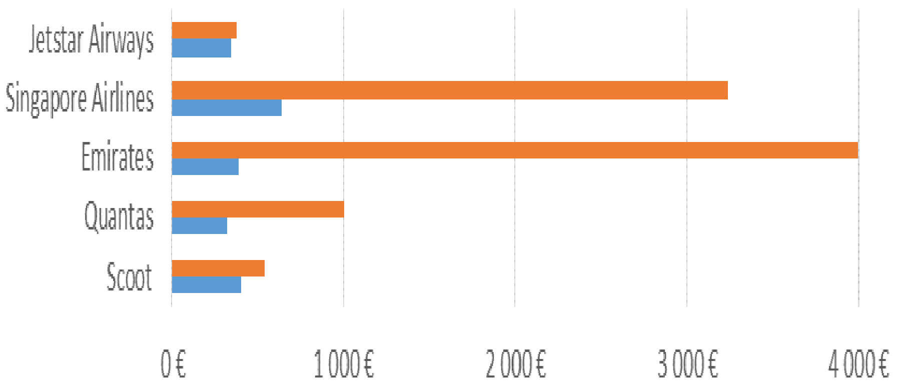
3.2.2 Competing by product?

Among the competitive weapons of the carriers, we also investigated the offer of classes to passengers. All the carriers on the route implemented the policy of differentiated classes whether in terms of amenities ("frills" on the board and other amenities offered at airports) or purchase restrictions (re-booking, cancellation of flights, baggage limitations etc.). Interestingly, in the offer of long-haul low-cost carriers (JetStar and Scoot) we found the offer of several "fly only" classes as well as "fly with amenities" classes. This indicates that the low-cost carriers operating flights on the route are focused on more than only one segment of customers. The customers are characterized by lower willingness to pay and different attitude towards the quality of product and/or its flexibility. This fact als confirm that the long-haul low-cost carriers are of hybridized nature. Moreover, as the "fly only" classes of the long-haul low-cost carriers are differentiated through the system of purchase restrictions and/or baggage limitations, it shows how the analysed long-haul low-cost carriers work with more subsegments of passengers which are very sensitive to price. Applying mi-cro-segmentation, the long-haul low-cost carri-ers are focused on several segments of custom-ers and more subsegments within the segments. On the other hand, the traditional carriers on the route do not address their services to passenger with the "willingness to pay only for to fly". Using the optics of both competing groups, the long-haul low-cost carriers look to be supple-menting carriers in terms of offered classes to passengers against the traditional carriers within the groups. Thus, both competing groups supply the O-D market by the very complex offer of classes, covering passengers demanding "with frills" and "without frills" products.

3.2.3 Competing by prices?

Regarding prices, we illustrate the rivalry on the route in the following illustrative graph in which the respective minimum and maximum one-way prices offered by the airlines on

Sunday (i.e. on February 25, 2018) under the assumption of February 10, 2018 as the booking date.



	Scoot	Quantas	Emirates	Singapore Airlines	Jetstar Airways
Max	545 €	1 004 €	3 997 €	3 241 €	383 €
Min	404 €	323 €	391 €	640 €	347 €

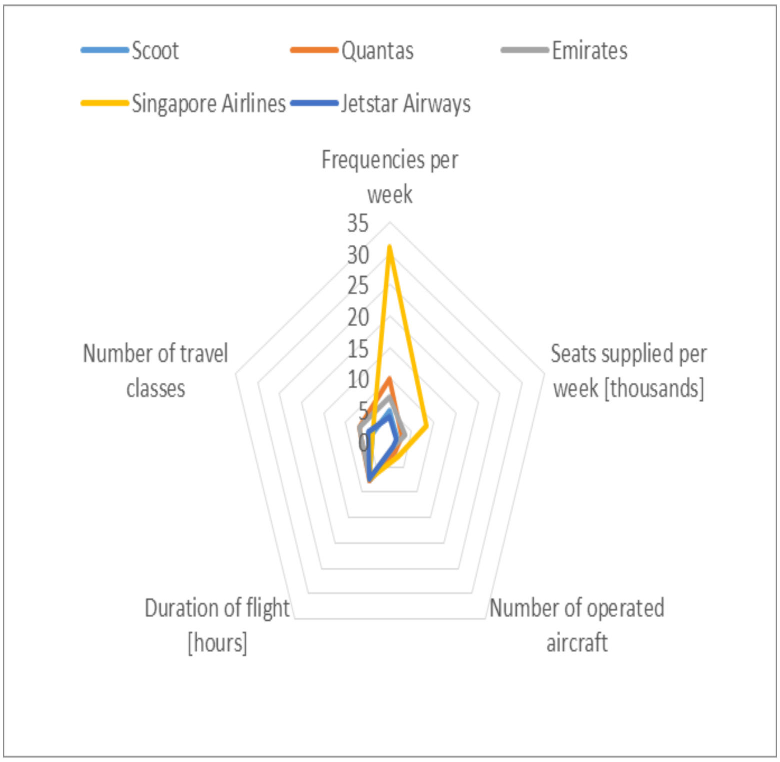
Source: Authors´ observation

Fig. 1 - Min-Max prices for the flights operated on February 25, 2018 on the Singapore – Melbourne route in EUR (under the assumption of set booking date)

The illustration depicted in Figure 1 reflects the practise of differentiated products for differentiated prices for both analysed groups of carriers - traditional ones and long-haul low-cost ones as well. Using the optics of both competing groups of airlines, the prices´ illustration indicates that every group supplies the market by products (classes) and prices, capturing the same market segments with various sensitivities to prices and quality. Thus, we see the analyzed market as a market dominated by the groups of airlines more than a market with several rivals. Within the groups, the long-haul low-cost rivals compete each other, while Singapore Airlines compete with its traditional rivals in the second group Qantas and Emirates. Thus, the competition is inacted in two dimensions: the first dimension expresses the competition of airlines for the same segments of passengers; the second dimension expresses the competition of airlines´groups for the market as a whole, capturing the whole market potential and all its demand´s segments.

4. CONCLUSIONS RESULTS AND FINDINGS

In Figure 2, we synthesize the main competitive weapons of the analysed carriers, using the data per the analyzed week.



Source: Authors´elaboration

Fig. 2 - The overview of main competitive weapons of the carriers on the Singapore-Melbourne route: carrier per carrier´s analysis

The analyses performed in this case study showed Singapore Airline as a dominant carrier on the route whether in terms of supplied seats or frequencies of flights. The dominancy of Singapore Airlines on the market is supported by the operation of its "airline within airline" Scoot which is a dedicated long-haul low-cost carrier (indirectly owned by Singapore Airlines). Scoot launched "fly only" services on long-haul markets and these "fly only" classes offered by Scoot are furtherly differentiated according to purchase restrictions and baggage limitations. Thus, Scoot compete mainly with JetStar in several (sub)segments of passengers which are rather sensitive to prices and less sensitive to time (frequencies) and quality. In this sense, the product´s policy of Scoot and JetStar are similar, being based on the same principles – several "fly only" classes for several subsegments of low-fare low-income passengers. Interestingly, both traditional carriers – Singapore Airlines and Qantas – compete on long-haul markets in the subsegments of low-fare low-income passengers indirectly, i. e. through the companies they own, therefore, we see Scoot and JetStar as supplementary carriers to Singapore Airlines and Qantas on long-haul routes. Being supplementary carriers within the competing groups of carriers, Scoot and JetStar enable the traditional carriers in the group to complete the offer of air services on long-haul routes by "fly only" products and thus activate demand in the subsegments of customers with high sensitivity to price and low sensitivity to quality.

Despite of continuing liberalisation of markets with domestic and international air services, there is still high level of concentration on long-haul international markets what can be demonstrated by this case study. As the competing long-haul low-cost airlines on the analysed O-D route are owned by traditional airlines, there must be at least suspicion about fair and effective competition of daughters against their (grand)parents. The same suspicion is about the competition of cooperating traditional airlines in the form of different forms of horizontal contractual partnership. We see the analyzed market as the market with two competing groups of airlines. Within the groups, the long-haul low-cost rivals compete each other, while traditional carrier(s) in one group compete against traditional carrier(s) within the second group. Thus, the competition is inacted in two dimensions: the first dimension expresses the competition of airlines for the same segments of passengers; the second dimension expresses the competition of airlines´groups for market as a whole, capturing the whole potential of market in the sense of market segments. Within both groups of airlines, “airline within airline” strategy was taken and dedicated long-haul low-cost carriers were established, activating in this way the demand´s segments represented by passengers with high(er) sensitivities to price. While Singapore Airlines may exploit economies resulting from its alliance´s membership and the alliance of its long-haul low-cost airlines within Value Alliance of low-cost carriers, the second group may exploit economies resulting from the alliance´s membership of Qantas and its cooperation with Emirates. Thus, both competing groups cover “fly only” or “fly plus amenities” segments of passengers by their offers and compete each other across the segments (and business models) and as a whole as well. Under the assumption that the market is fully saturated by frequencies, capacities and products, there can be a problem to enter such markets and effectively compete (20).

In this context and in longer perspective, we cannot reject an idea about the reform of current global alliances which are concentrated around the biggest US traditional carriers, and taking into account the dynamics of markets with air services in Asia, we can only speculatively hypothesize the emergence of a new huge international alliance or several such alliances concentrated around the biggest Asian carriers, members of current global alliances. Such eventual evolution would significantly change the global competition of air carriers, whether allied or not allied in international and global alliances.

As the results of our case study have showed, the competition issues applied on markets with international long-haul air services are too complex. Consideration of ownership´s arrangements and horizontal cooperation within alliances and out of them should not be ignored in regulatory and competition policies in future. The regulatory and competition policies applied on international long-haul routes ought to tackle more with fragile edges in the triangle of cooperation, competition and coopetion in the airline industry.

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