Low-cost long-haul carriers: a hypothetical analysis of a 'Kangaroo route'

Abstract

Given the success of short-haul, low-cost airlines in most regional markets, it was expected that low-cost airlines would next venture into long-haul markets; however, most attempts in the past decade have, like their predecessors, failed. The purpose of this paper is to demonstrate that a long-haul, low-cost operation based on a hypothetical airline that operates between Melbourne (Australia) and London (UK) can achieve a cost advantage compared to full-service airlines, but this advantage is not as great as the difference between low-cost carriers that operate in short-haul markets compared to full-service airlines (FSAs). Research to date on concept of low-cost long-haul airline operations is limited, but it does acknowledge that the cost differential between low-cost airlines and full-service airlines in short-haul regional markets is not as strong in long-haul operations. Factors such as larger and more expensive aircraft; flight-operating conditions including fuel burn; congestion around busy airports; crew costs; airport charges at main airports; and marketing issues such as branding, advertising and distribution all combine as deterrents for low-cost carriers to enter long-haul markets. This research confirms that it is possible for a low-cost, long-haul operation between Australia and the UK to attain a 13-17% cost advantage measured in cents per available seat kilometre (ASK) relative to full-service airlines.

Keywords: low-cost low-fare carriers; long-haul airline operations; failures

Introduction

Low-cost carriers (LCCs) have had a major impact on short-haul regional markets and have experienced exponential growth in all markets except for the Middle East and Africa, where this concept is still relatively new. For instance, market penetration by LCCs is at least 25 per cent in various domestic and intra-European markets, South America and the Asia Pacific (Gross and Lück, 2013; Lohmann and Lipovich, 2013). However, the concept of a low-cost model has had only limited success in long-haul markets, which carries a legacy of failure (Daft and Albers, 2012). The classification "short haul" generally determines sector flight times of 1-2 hours, although some LCCs operate international flights of up to nine hours, which is regarded as a medium haul. Long-haul sectors are flight times that exceed nine hours. Only recently have carriers such as Air Asia X, Jetstar and Scoot established medium- to long-haul services (Whyte and Lohmann, 2015). To date, no low-cost long-haul airline has entered the "open skies" Australia–European Union (EU) market. In a spatial and temporal comparative study of LCCs, Francis *et al.* (2006) posited the question of "where

next?" for low-cost airlines, referring to the identification of new growth opportunities, such as long-haul services. LCCs have been able to grow and prosper in short-haul and medium-haul markets as "independents" without having to turn their attention to the long-haul market, which has increasingly become alliance-driven and therefore currently includes code sharing and cross selling as key elements of their marketing strategy.

The idea of a low-cost, "no frills" *long-haul* airline is not new, but most previous attempts to sustain scheduled services, such as Laker Airways (Shaw 2007) and People Express in the 1970s/early 1980s, have ended in failure. Sir Freddie Laker was the first to pioneer the concept of a long-haul "no frills" service when he operated his "Skytrain" between the United Kingdom and the USA, which was an operation that lasted four years. Since this time, only limited attempts have been made by independent, private start-ups such as Oasis Airlines Hong Kong and Zoom Airlines (Canada), and these also ended in failure. Air Asia X entered long-haul services from Kuala Lumpur to London and Paris but later withdrew these services (Daft and Albers, 2012).

The main focus of this paper is to evaluate whether a long-haul low-cost airline could enter the Australia–EU market and achieve a cost advantage relative to full-service airlines (FSAs) and to determine what transferable elements from the short-haul model could be applied to long-haul operations. In 2009, Australia concluded an "open skies" agreement with the EU that replaced former bilateral agreements with the member states (Aviation White Paper 2009, Department of Infrastructure, Transport, Regional Development and Local Government). This agreement was expected to create greater opportunities for airlines; however, it has not resulted in any launch of new services by an Australian or EU carrier. Instead, an increase in the capacity of Gulf State and Asian carriers has occurred, thus increasing their share of the market by exploiting their geographic position and being able to hub passengers through their homeports.

The factors that impact Australia's international aviation position are as follows:

1. The emergence of low-cost airline operations now operating between Australia to a number of Asian ports and an increasing blur between international and domestic services. LCCs that operate from Australia to Asia include Air Asia X, Jetstar, Scoot and Tiger.
2. The consolidation of the airline industry into major alliance groups and the increasing use of code-share agreements; for example, the Qantas/Emirates Air agreement and the Virgin-Etihad code share agreement with Virgin operating to Abu Dhabi. Virgin also code shares with Singapore Airlines and with Delta on flights to the USA.

3. The capacity in the market, especially that offered by Gulf State airlines (Emirates Air, Etihad Airways, Qatar Airways) and Asian carriers. Gulf State carriers collectively operate more than 100 flights per week out of Australia. The Singapore Airlines Group (including Tiger and Scoot) also operates over 100 flights per week from seven gateways. The market share held by Qantas of all outbound departing passengers has dramatically decreased in the past decade from its high of 32% to half of this; however, Jetstar now accounts for 9% of all departing passengers from Australia (BITRE 2013).

A new wave of competition has emerged from China-based airlines that are able to exploit their geographic positions and comparatively low costs to carry Australia–EU traffic through Shanghai or Guangzhou. This research advances the debate on whether the low-cost long-haul model has any potential firstly by considering what elements of the short-haul model can be transferred to long-haul operations and secondly by developing a model based on a hypothetical Melbourne/London low-cost airline to illustrate that a cost differential can be attained compared to full-service airlines, but this difference is not as great when compared to short-haul operations. Research to date has been more generalised and inconclusive in determining a cost differential between full-service airlines and low-cost/low-fare airlines.

The structure of this paper is as follows. The literature review provides a broad background for the emergence of low-cost carriers that operate in most aviation markets around the world as well as their cost-reduction strategies. Given that low-cost long-haul service has achieved only very limited success and is better known for its failures, there is only a limited amount of research in this area. The results are presented by firstly reviewing long-haul low-cost airlines since 2000, when carriers such as Oasis (Hong Kong), Zoom (Canada) and Air Asia X (Malaysia) entered the long-haul markets. The paper then presents data that show the market shares held by different airlines that operate between Australia and the EU; the differences in the operating environment between short-haul and long-haul services; the key features of LCC operations; and an analysis of what transferable elements from the short-haul model can be applied to long-haul operations. Based on a cost data-modelling exercise developed by Boeing Airplane Company, which compares short-haul and long-haul services, the authors constructed a model that shows the unit costs for a Qantas and Emirates Air Australia/UK service modified to fit an LCC all one-class operation. The modelling confirms that a low-cost long-haul operation can attain a cost differential ranging between 13% and 17% compared to Emirates Air and Qantas. The Discussion section concludes that low-cost long-haul service has limitations and is more likely to emerge from financially strong airlines through their subsidiary offshoots in a ‘two-brands’ strategy.

Literature Review

The growth of LCCs has attracted considerable academic and scholarly interest because of its significant impact on air transport markets. The combined effects of deregulation, liberalisation and privatisation of the airline industry along with the global alliances and consolidation that developed in the 1990s and continues today are reshaping the competitive forces that affect the industry (Blaha 2003; Doganis 2005; Gillen and Morrison 2005; Jarach 2004; Wensveen and Leick 2009). These forces and the financial stress suffered by FSAs have created new opportunities for innovative LCCs to enter markets that were either vacated or ignored by FSAs (e.g. South America, as presented by Lohmann and Lipovich, 2013).

The overall strategy of an LCC is to reduce costs and offer a 'no frills' type of service that basically 'unbundles' the product to reduce prices and stimulate demand, thereby maximising revenue (Cobb 2005; Lawnton 2006). Jarach (2004) aptly describes LCCs as "a value-based proposition". The objective of all LCCs is to maximise revenue and reduce costs. Cost reduction strategies are synonymous with LCCs who strive to find ways of operating more efficiently. LCC operating costs have been calculated to be between 25 and 40% lower than network airlines due to a range of cost-reduction methods (Alamdari and Fagan 2005; Blaha 2003; Ergas and Findlay 2004; Pels 2008). The concept of a low-cost airline is to operate a simple fleet management arrangement; use only basic facilities at airports and, where possible, use secondary airports; increase the flying hours per day compared to FSAs and achieve fast turnarounds; extensively contract out services, thus reducing fixed costs and overheads; apply greater flexibility to their labour force, including paying lower wages than FSAs; charge a basic price for a seat only and charge for all other services used, which can include checking in at a counter, stowing a bag, food and refreshments and any in-flight entertainment; and rely on direct bookings via the Internet, thus eliminating travel agency commissions. LCCs also have very strict fare rules regarding changes to bookings and cancellations, and rebooking charges can be steep relative to FSAs. Many LCCs are based on the model of Southwest Airlines (USA), who is credited with creating the concept; however, as observed by several researchers (Francis *et al*. 2006; Lohmann and Koo 2013; Morell 2008), the application of each LCC will vary according to each market and whether a market is mature or less developed. For example, LCCs through their low fares, have enabled many first-time air travellers in the Asian region and in South America. However, some doubt exists regarding whether these types of services coupled with strict rules and comfort compromises can lure long-haul travellers away from existing FSAs when typical flight sector times can reach nine or more hours (O'Connell and Williams 2005; Francis *et al.* 2006; Morell 2008; Wensveen and Leick 2009).

Although the literature is rich in studies on the low-cost airline concept, there are limited studies on the low-cost long-haul model; these include works by Francis *et al.* (2006); Morell (2008); Wensveen and Leick (2009); and Daft and Albers (2012). An obvious reason for this lack of research is that low-

cost long-haul airlines have had minimal impact, but Francis *et al.* (2006) considered whether the low-cost concept would evolve into a model. However, the facilities used by LCCs and the transferable elements from short-haul to long-haul services create some doubts about the concept. Francis *et al.* (2006) observed that some FSAs adopted a "cost-cutting" position and differentiated their economy-class product to suit different markets in a move made by a number of airlines, which Lohmann and Koo (2013) identify in their airline business model spectrum as a 'hybrid' business model. Morell (2008) called for a new business model for long-haul/low cost but stopped short of advancing a model. Wensveen and Leick (2009) accept that there are some limitations surrounding low-cost long-haul services, and many of the cost advantages enjoyed by short-haul LCCs are not the same for long-haul operations because there is a different set of operational and marketing issues to consider. For instance, actual flight-management concerns are more critical on long 9- to 14-hour sectors, including the cruising speed, cruising altitude, time taken to reach cruise altitude, headwind/tailwind, weight of the aircraft and fuel burn. Other impediments to the low-cost long-haul concept are delays at busy airports as a result of waiting for clearance for landing and take-off and slot allocations. Ryanair, the EU's largest airline by passenger numbers and fleet size (AEA 2013), for example, tries to avoid major European airports by selecting secondary airfields not only to reduce costs but also to maintain an on-time schedule.

Methodology

This paper undertakes a case study approach and examines whether a long-haul low-cost airline could take advantage of the strategic window created by the 'Open Skies' agreement between Australia and the EU and achieve a cost advantage compared to the FSAs that are well-established in this market. The transferability of elements from the short-haul low-cost model is analysed, and the elements that could be applied to long-haul operations are identified, given the different operating characteristics. A hypothetical Melbourne to London all-economy-class service with one technical stop based on a long-range Boeing 777 was created as a model and compared to the costs of Emirates Air and Qantas—two of the primary carriers that operate Eastern Hemisphere routes.

Studies of the aviation industry rely extensively on 'case-building' strategic and statistical analyses, which therefore place such research in the 'existing theory' rather than the 'theory-building' category of research as the basis for developing explanations. Case building based on content analysis is a legitimate research strategy described by Yin (1994) as 'situations in the making' over a period of time. For this research, it was necessary to use secondary data sourced from reliable aviation sources. These sources include IATA, ICAO, OAG (Official Airline Guide), the Boeing Airplane Company and the Centre for Asia Pacific Aviation (CAPA). Interviews also took place with key respondents to not only add perspective but also validate the findings. In essence, a 'case-building' analysis is

fundamentally “outcome evaluation” (Stake 1995) and has what might be termed ‘face-value credibility’ based on ‘existing theory’ that provides evidence or illustrations with which some readers can readily identify.

Results

Low-cost Long-haul Airlines from 2000 Onwards

Steady economic growth, prosperity across most parts of the world in the latter half of the 1990s and a wave of deregulatory neo-liberal policies saw a rebirth of low-cost long-haul airlines. These airlines include Canadian-based Zoom Airways, Kuala Lumpur-based Air Asia X and Oasis Airlines Hong Kong. Although escalating fuel costs were a key contributing factor in the demise of Zoom Airways, which operated Trans-Atlantic services from Canadian ports to Europe, Zoom and Oasis were under-capitalised and were unable to sustain operations as independent airlines. A common feature of these failures is over-optimism, too-rapid expansion and often a lack of senior airline management experience (Wensveen and Leick 2009). Only Air Asia X has survived, but it withdrew long-haul services to the EU, citing that its business model was better suited to sector flight times that did not exceed nine hours.

In 2006, Oasis Airlines initiated flights between Hong Kong and London Gatwick in a market that was already dominated by strong airlines — British Airways, Cathay Pacific and Virgin Atlantic — but the airline’s founders, Raymond and Priscilla Lee (who had no previous airline management experience), believed that there was room for a low-cost/low-fare airline. Ballantyne (2008) observed that Oasis Airlines had “the wrong aircraft, the wrong management and wrong business model”. The airline leased old Boeing 747s, which resulted in high operating costs and too many seats to fill, including 82 premium-class seats (King and Kuilman 2008). Oasis Airlines lasted less than 18 months before its bankruptcy, incurring accrued losses of HK$1.2 billion before it filed for liquidation (KPMG 2008).

Malaysian-based Air Asia entered the long-haul market through its franchise operation, Air Asia X, which includes a shareholding by Sir Richard Branson’s Virgin Group, when it inaugurated a service between Kuala Lumpur and London Stansted (north of London) in March 2009 with a leased A340 aircraft (Australian Aviation Express 2009) that operated four times a week. Air Asia introduced services to Australia in 2007 (8-9 hours of flight time) using leased Airbus A330 aircraft. Stansted Airport was chosen because it primarily existed as a low-cost airport compared to the high-cost Heathrow and Gatwick airports, and its northern London location potentially opened up new markets, although it also restricted the airline from gaining transfer traffic through a major hub. Air Asia’s entry into the United Kingdom came at a time when traffic had been on a decline between Malaysia

and the United Kingdom. In its five-year plan, Air Asia X expressed its intentions to launch services to the US West Coast and Vancouver but may encounter difficulties in overcoming Canadian regulatory bodies who have adopted the position that unless its national airline, Air Canada, exercises reciprocal rights, approval will not be forthcoming.

The Australia–EU Market

Since the late 2000s, Qantas' share of the Australia–EU market has been shrinking (see Table 1 below) as Gulf State and Asian carriers continue to grow capacity from Australia and become more competitive due to lower costs. To counter a declining market share, Qantas terminated its strategic alliance with British Airways and formed a new alliance with Emirates Air, routing its London flights through Dubai, thus enabling passengers to have better access to European capitals by transferring in Dubai to an Emirates service. Singapore Airlines, Cathay Pacific, Thai Airways and Malaysia Airlines are other dominant carriers that compete for Australia–EU traffic. While Gulf State and Asian carriers are termed "fifth freedom" carriers, as technically, such carriers do not have Australia–EU traffic rights, they can access this market and exploit their geographic position by combining rights held with Australia and with the EU. British Airways is now the only EU airline operating into Australia, as Virgin Atlantic has abandoned its Sydney-London service via Hong Kong in 2014. In many respects, this is a policy failure by the Australian government, which had expected to see some return of European carriers to Australia as a result of its "open skies" policy. Many European carriers now rely on their alliance partners to feed Australian-originating traffic at a Southeast Asian port. In addition, Jetstar's plan to enter Greece and Italy has been shelved following the alliance agreement between Qantas and Emirates Airline, which opens up these destinations from Dubai.

Table 1 Market share of outbound originating Australian airline traffic destined for Europe 2008-2012

Airline	**2008**	**2009**	**2010**	**2011**	**2012**
Qantas	28%	27%	26%	24%	24%
Emirates	17%	18%	19%	20%	22%
Singapore Airlines	14%	15%	14%	15%	15%
British Airways	6%	5%	5%	4%	3%
Malaysia Airlines	5%	5%	5%	4%	4%
Cathay Pacific	6%	6%	7%	7%	7%
Thai Airways	2%	2%	3%	3%	3%
Virgin Atlantic	2%	2%	2%	2%	2%
Etihad	2%	2%	3%	4%	4%
Others (*)	17%	17%	15%	16%	16%

Source: Tourism Australia data, Centre for Asia-Pacific Aviation Studies data, Airline data sourced from airline annual reports.

(*) "Others" include an array of carriers some which serve Australia such as Japan Air Lines, Korean Air and Royal Brunei and European carriers such as Air France/KLM, Lufthansa, Finnair, and Scandinavian Airlines who do not operate into Australia and rely on feed traffic from one of their South East Asia ports.

Comparative Issues between Short-haul and Long-haul Services

To understand the challenges of deploying the long-haul low-cost model, Table 2 shows a comprehensive range of operational and marketing attributes to offer a comparison to the generally accepted short-haul model and to identify whether these attributes are transferable to a long-haul low-cost operation.

Table 2 Comparative issues between short-haul and long-haul services

Element	Short-haul low-cost model	Long-haul low-cost model
Aircraft choice	Regional jet – Boeing 737 or Airbus A320 with high-density seating	Long range, fuel efficient, 250-300 seat capacity – new Boeing 787 appears to offer lowest operating cost; however, other contenders include Boeing 777ER, Airbus A330-300.
Aircraft usage	High	Will be achieved because of longer sector length.
Airport	Secondary (mainly)	Need major airports for hub/spoke traffic and connections to/from other points with other airlines. Do not require aerobridges, 'gold-plated' facilities or prime slots.
Alliances	Independent – usually no alliance partners, although Qantas/Jetstar cooperate in tandem	More important for feed traffic and code-sharing
Brand	One brand (low pricing)	One brand (low pricing), but clear about service
Cargo	Generally no	May need incremental revenue but would be an airport-to-airport only carrier.
Check-in	Ticketless	Ticketless
Class segmentation	Single class	Multiple classes (usually two). Offer a limited number of pseudo-business-class-type seats. Economy class could be segmented to 'standard economy' and 'economy light' (all add-ons are an additional cost).
Connection	Point-to-point, no interlining, no baggage transfer.	Point-to-point, no interlining, no baggage transfer, self-connecting
Customer service	Generally underperforming	Unknown
Distribution	Online, direct booking	Online, direct booking. Selective distribution through major retail chains.
Fare	Simplified fare structure: peak and off-peak. Time of booking also important: the earlier, the cheaper, lower price (60% or more below legacy carriers).	Simplified fare structure; the earlier the booking, the cheaper the fare. Competition-based pricing – below FSAs (price and quality integration); include a 'comfort pack' and baggage allowance, but customers pay for in-flight meals and entertainment.
Frequency	High	Low to moderate (about once per day)
Frequent flyer program	No (mainly)	May be more valuable
In-flight entertainment	Pay for amenities, on-board sales	Longer-haul passengers are likely to value this more highly.
Markets	Predominantly leisure and visiting friends' and relatives' segments that buy on price. Prepared to forego service enhancements	Long-haul leisure travellers, price-conscious travellers, end-to-end traffic without stopovers buying airfare only without add-ons, such as accommodation and touring.
Outsourcing	Extensive usage, especially where there are a limited number of services to an airport	Extensive use, especially in overseas ports as well as for accounting/payroll-type functions.
Operational activities	Focus on core (flying)	Focus on core (flying) and sometimes cargo.
Seating	Small pitch, no assignment	Comfort more important the further you fly. Pre-allocation might be demanded.
Target group	Leisure-, time- and price-sensitive business travellers	Leisure-, time- and price-sensitive business travellers

Turnaround time	25 minutes	Less important because aircraft spends more hours in the air. Also depends on work/rest periods

Transferable elements from short-haul to long-haul services

As widely explored in the literature (e.g., Daft and Albers, 2012; Pels, 2008), only some of the operational elements deployed by short-haul LCCs can be applied to long-haul LCC operations given their different operating characteristics. The transition by Jetstar from being a short-haul domestic low-cost/low-fare airline to one that operates from Australia to Asian ports as well as Hawaii serves as a reference point. For example, fleet utilisation is maximised; crew rests overseas are kept to the mandated minimum instead working a crew back to base and providing more rest time; lower wages are paid than those paid by FSAs, and there is greater labour market flexibility; services are contracted out so that the LCC pays for only what services are provided without sustaining overhead costs; operations originate from low-rental offices, avoiding expensive street-level booking offices; and travel agency and commissionable sources are eliminated because customers book direct. Although branding is important, brand image is less important than it is to FSAs, and advertising messages are kept simple and at a low cost.

Table 3 below shows the facilities expectations of low-cost carriers compared to full-service airlines.

Table 3: Facilities expectations of LCCs compared to FSAs

Low-cost carrier facilities requirement	**Full-service airline facilities requirement**
Access	
Location of secondary importance. Good road and rail links not essential but preferable	Convenient location essential particularly for non-economy passengers
Terminal	
Small ticketing area only. Fast check-in preferred	High-profile ticketing desk, reflecting corporate image and presence
Control of speed is essential	Check-in convenience and profile are of great importance
Terminal services such as food, shopping of little importance Terminal facilities not important	Important that passengers feel purchasing needs are met
Gate	
Low-tech gate facilities (air step)	High-tech gate facilities (air bridges)
Power in and out of gate, eliminating wasting push-back time	Aerobridge essential to product image wherever possible
Economy lounge facilities only	Business and first class lounges required in addition to economy space (separation of different classes essential to the product)
Ability to separately route incoming and outgoing passengers	Long turnaround times provide ample time to route passengers in an appropriate manner
General	
Minimal catering facilities required	Facilities for the preparation of in-flight food essential as they form part of the package
Cleaning staff required less frequently – cabin crew collect Aircraft cleanliness as an essential part package rubbish etc. prior to landing	
No standby aircraft parking during daytime	Standby aircraft require parking
Efficient removal and loading of aircraft baggage (customer containerisation). No baggage transfers.	Efficient delivery of arriving baggage including baggage transfer to connecting flights.

Source: created by the authors

Developing a Cost Model

In developing a cost model to compare full-service and low-cost long-haul models, this paper examines two different sources.

The first cost model considered is the one proposed by the Boeing Airplane Company, which is well-acknowledged by airlines when considering aircraft purchases, as operating cost efficiency is of paramount importance to airline strategic fleet planning. The example shown on Table 4 uses data from the Boeing Airplane Company to compare a long-haul journey based on its long-range B777 model which is used by many of the world's major airlines. While the Boeing model does not specify a specific route or an airline, not reflecting the differences in terms of costs between airlines, it does provide an overall difference of 25% between long-haul low-cost and long-haul full-service business models. While some caution is required when citing an aircraft manufacturer's data, which may be optimistic and based on a "best possible" outcome, what is important on the data provided by the Boeing Airplane Company (Table 4) is the overall difference between the two airline business models.

Table 4 Cost model developed by the Boeing Airplane Company for a hypothetical long-haul flight

All costs in US$	**Full-service model**	**Low-cost model**	**Low-cost model advantage (-)**
Capacity	301	375	N/A
Direct operating cost (DOC) – lease per sector	98.080.91	109,269.81	11.4%
Total DOC per sector	124,380.91	135,569.81	9.0%
Total DOC per seat per sector	413.23	361.52	-12.5%
Total indirect operating cost per sector	43,701.40	21,444.00	-50.9%
Total cost per sector (over 9 hours of duration)	168,082.31	157,013.81	-6.6%
Total cost per seat per sector	558.41	418.70	-25.0%
Unit cost/ASK (US cents)	5.36	4.02	-25.0%

Source: adapted from the Boeing Airplane Company, 2012

A second cost model considered in this paper was from the perspective of airlines. As Qantas/Jetstar received the delivery of the new and much-delayed Boeing 787 "Dreamliner", a senior Jetstar executive who was interviewed and questioned on the Boeing data stated that Jetstar's modelling showed that a cost savings of 17-19% was more realistic relative to parent owner Qantas' costs; if operating to Europe, the cost savings would be lower because of the now-scrapped higher costs that include the EU carbon tax. the following steps were applied in developing this cost model (Table 5).

First, the unit costs for each carrier (Qantas and Emirates Air) are shown in column 1 and 2 respectively with only small differences separating the two carriers. The next step converted the service to an all economy class service thus increasing the seat capacity and foregoing premium revenue (and associated cost), which would mean costs could be distributed over a greater number of passengers which has the effect of reducing the unit cost per passenger shown in column 3. Authoritative aviation sources consulted conferred that it would be a reasonable assumption to increase the expected load factor from 75% to 80%. Column 4 represents further unit cost savings when the operation adheres to the principles of a low cost airline operation although unit costs are not as great for a longhaul operation compared to a short haul operation. The column on the right factors in lower crew costs (flight deck and cabin); aircraft cost through leasing; lower airport costs through not using air bridges and "gold-plate" services; and reduced marketing costs for passenger services such as distribution and sales commissions as some advertising cost reduction through simplified promotional messages can be expected. Two, independent, authoritative aviation sources were asked to verify the modelling and to test certain assumptions made. CAPA verified that their own modelling for low cost long-haul was in line with data shown in Table 5 but went so far to say that an airline's largest cost – fuel, could vary according to flight management and flight conditions encountered. There are no specific cargo costs and whilst it might be expected that our proposed long-haul low cost operation would carry cargo it would be without cargo operational and marketing costs and carried on a purely "airport to airport" basis. It should be noted that some costs remain constant and for example, fuel – the single largest cost is the same irrespective of the type of operation. However, at the time of publication, two factors do have implications on fuel cost. First, the introduction of the new Boeing 787 entering long-haul routes and its reported fuel economy compared to other marques. Second, the recent fall in oil prices that will reduce airline costs but have yet to flow on to airline consumers. When this data was presented to a Jetstar senior executive, they concurred that their unit costs for medium to long-haul operations were in the range of 15-20 per cent less than Qantas adding further substantiation to the data presented below.

Table 5 Cost differentials between FSAs and a hypothetical LCC

(In AU Dollars, cost per passenger) as of 2012

Based on a per-passenger cost for a one-stop Melbourne to London journey of 12,000 miles.

	Emirates	Qantas	Adjusted for high-density all-EY class 80% load factor	LCC/no-frills airline with other adjustments
Flight crew	69.34	71.88	62.29	58.11 (6.4%)
Cabin crew	75.57	76.75	60.63	56.65 (6.3%)
Fuel	382.57	410.05	374.52	374.52 (46.6%)
Insurance	7.72	7.58	5.91	6.57 (0.8%)

Aircraft	157.57	168.91	131.75 (*)	131.75 (17.8%)
Training	2.84	2.60	2.26 (*)	2.26 (0.3%)
Maintenance	51.32	58.38	50.59 (*)	50.59 (6.1%)
Airport	52.85	55.38	48.00 (*)	48.00 (5.1%)
Navigation	30.40	32.98	25.73 (*)	25.73 (3.1%)
Passenger services	50.93	49.96	39.47	34.06 (2.5%)
Sales/Commissions	41.61	35.85	31.46	28.73 (1.9%)
Advertising	13.48	11.48	10.08 (*)	10.08 (1.2%)
Administration (incl. outsourcing)	23.60	26.79	23.51	22.76 (1.4%)
Cargo specific	17.07	20.02	17.57	0.00
Total per pax	**976.87**	**1028.61**	**937.35**	**849.81**

(*) Some figures in the last two columns are the same, as there is no cost advantage attained on several factors when comparing an all economy-class services operated by an FSA and an LCC. For instance, airport, navigation, fuel, aircraft, and training factors are all constants.

From the above model, the cost differential per passenger is 13% compared to Emirates Airline and 17.4% compared to Qantas. However, caution again needs to be applied; while this model reveals that a cost advantage can be attained, there are several variables to consider. The load factor of 80% reflects the target that most LCCs set, whereas FSAs generally operate all year round in the mid to high 70s. Flight management practices are also critical in terms of favourable/unfavourable weather conditions, the weight of the aircraft, fuel burn and whether air cargo is carried.

Discussion and Conclusions

The concept of low-cost long-haul airline services has had a chequered history. The independent 'go-it-alone' airlines have been unable to sustain operations usually because they are under-capitalised, overly ambitious and try to expand too quickly. In the current market, established network airlines operate frequent-flyer schemes to reward loyalty and 'lock-in' regular flyers and increasingly depend on alliance agreements with other airlines for feeder traffic, code sharing and sharing resources. FSAs have also paid close attention to their costs and have become smarter in devising product differentials, even in their economy class.

Australian government aviation policy has ensured that capacity remains ahead of demand and that substantial capacity has ben added into the market by Gulf State and Asian carriers. Thus, the extent of competition and rivalry between airlines has stimulated the demand by airline consumers that fly between Australia and the EU. Furthermore, Australians' quest for travel has been driven by a high

Australian dollar, 'baby boomers' have emerged as a key segment, and relatively static air fares have largely taken up the supply side, although going forward, a softening in domestic demand within Australia may be reflected in international markets in the near future. Thus, low-cost long-haul services have a limited future even with a new generation of more fuel-efficient aircraft, such as the Airbus A380 and A350 and Boeing's new 787. Only Qantas and Singapore Airlines and to a lesser extent Cathay Pacific and Air India have used subsidiary airlines in the Asia-Pacific region as part of a twofold brand extension /market segmentation strategy: first, to defend their market share and complement their mainline operations, and second, to give customers a greater choice.

Although this research has shown that a low-cost long-haul airline could achieve a cost advantage compared to FSAs, we are not suggesting that new entrants will enter long-haul markets. An unknown for perhaps further research is whether airline consumers would be willing to forego some comfort and service levels for a more attractive air fare by travelling on a "no frills" airline. In the case of Australia to EU, the market is well-served by a host of airlines, including several EU airlines that operate as far south as South Asia and rely on feeder traffic from Australia. Thus, the extent of competition acts as an entry barrier. Secondly, entry into long-haul markets carries greater risks in terms of cost and financial returns, such as capital or leasing costs for bigger aircraft, operating costs (fuel in particular), marketing issues such as branding and distribution systems and the reality that low-cost carriers would need to adapt their products to basically match FSAs' economy class to better suit long-haul travellers and their comfort. All of these factors cast some doubt that the long-haul low-cost concept would not threaten FSAs in the same way it has in short-haul markets.

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