

## **The Sustainability of Low Cost Airlines in Malaysia**

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*Price is the most powerful tool in business and it has a significant influence on consumers' purchasing behavior and consequently on firm sales and profits. Low cost airlines have reshaped the competitive environment within a liberalized market and have made significant impacts on the domestic market. A review of literature has indicated that prices remain one of the least researched and mastered area of marketing. The objective of this study is to examine the nature of the price setting behaviour of low cost airlines. Data were recorded from the airlines' websites concerning one regional route and six domestic routes for two durations of 60 days each. The data collection yielded 7883 fare quotes. The data were further analysed to compare pricing strategies of the low cost airlines and to test the relationship between ticket price and a few independent variables such like flights, flight destination, interval, time frames, weekend/weekday, advance purchase and fare quotes. Multiple regressions showed that ticket price was statistically influenced by these variables. The Granger Causality Test revealed that in this oligopoly market structure, low cost airlines' pricing strategies tend to mimic the Barometric price leadership. Every firm is vulnerable to attack by its competitors. Therefore, Game theory, Sun Tzu Art of Wa and, Blue Ocean Theory could provide ideas to the airlines in planning and implementing strategies that constitute the best defence against such attack.*

**Field of Research:** Marketing, Developing economies

### **1. Introduction**

Price wars are the fact of today's aviation business. Many marketers believe that the most powerful competition trend currently used by shaping the marketing and business strategy is the pricing strategy because it has a direct impact on a company's profitability. It is clear that low cost airlines face stiff competition among themselves. It is customary in the low cost airline industry to use ticket price as a promotional tool to motivate the sales of a specific route. However, offering free tickets as a sales tool carries risks, such as "customer driven" pitfalls. By 'training' the customers to buy on price, the chances are higher that they will defect to a lower price elsewhere as the price promotion influences the customer's price reference and evaluation of future purchases, Sara and Maria (2007). Thus, this kind of strategy has to be backed up by the ability to actually sustain low prices in the long run. Aruna (2011) reported that the crisis in the Middle East has caused escalating fuel prices, where many international airlines, including Australia's Qantas Airways and the British Airways, have already increased the fuel surcharge. Jeeva (2011) reported that AirAsia has implemented an additional charge to all its destinations to cope with escalating fuel prices. Teo (2010) revealed that in the month of October 2010, Singapore's low cost airline, Tiger Airways, has cancelled numerous flights due to the exodus of many pilots, thousands of passengers were stranded due to manpower shortage and aircraft fault.

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IATA (2009) reported that the Sky Eupore low cost airline in the United States had filed for bankruptcy and all its flights, sales and operations have been suspended. It was reported that the airline had obtained a loss of 60 million euro (\$85.63 million) in the 2007-2008 business year. Besides this, Aloha Airline, ATA and the Sky bus in the United States have also failed to sustain operations. There are many other low cost airlines facing financial difficulties and the bankruptcy of those low cost airlines looks like an ominous trend. The stiff ticket price competition of low cost airlines has an important implication leads to this scenario. Therefore, It is believed that low cost airlines have to use effective pricing strategies to increase profitability, boost brand power and fight off competitors. Bilotkach et al (2007) stated that airlines are implementing a different price setting strategy and ticket price is affected by a few factors. Button (2007) has employed Granger Causality Test to examine the competitiveness pricing strategy of the airline and he concluded that airlines have their own ticket setting philosophy.

### **2. What are the Phenomena Surrounding the Airlines' Industry?**

The major catalysts of the spread of low cost carriers in the Asia Pacific are the deregulation of the aviation industry and the open sky policy. These factors are perceived as one of the triggering factors of the development of low cost airlines and they are being perceived as one of the most prevailing trends in all the sectors. The history of low cost carriers is short and the ability of the low cost airlines to compete with established full service carriers on price represents an evolution of the airline market. The low cost carrier can successfully neutralize the dominance of its competitors by competing on price and its stunning result has triggered researchers to study the reasons of the success.

Low cost airlines in Malaysia had moved into new intra Asian market, such as Thailand, Indonesia, Singapore and now Air Asia X is beginning its move into long haul routes to Europe, China, Australia and other destinations. The effort to penetrate the long haul routes is a challenge as the concentration of the low cost airline is on domestic and short haul destinations. The deregulation of the aviation industry has had dramatic impacts on the full service carriers particularly in Thailand, Malaysia, Singapore and Indonesia. Full services carriers have responded by launching their own low cost carrier versions, for example Malaysia Airline Firefly, Mas Wings, Singapore Airline Tiger Airways and JetStar Asia, India Airlines Jet launched a no frill subsidiary; Jet Konnect and Kingfisher took over Air Deccan to create Kingfisher Red, a low cost carrier in year 2008 and these low cost carriers offering similar fare prices are put in direct competition among themselves.

Recently, the incumbent low cost airline in Malaysia faced another massive competitive threat: a vigorous, aggressive and worryingly effective assault by full service airline, promoting their "zero fare" campaign. Full service airlines recently launched a "zero fare" campaign to sell surplus seats on domestic and regional flights, aimed at boosting their incomes. The incumbent low cost airline, Air Asia, chose to fight tooth and nail with the full service airline by launching its own "sub zero fare" campaign (Sidhu, 2008). In the earlier stage of this campaign, it has a significant impact on the market share and profitability. Air Asia's shares increased by 12 percent on its stock market debut in spite of higher fuel costs and the regional competition (Watch Market, 2008). However, the market share is continually under threat from competitive pressure. By building volume through discounting tends to

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lead the market into the fluctuation situation, the price war to fill seats is enough to send the stock into tailspin, competition tactics such as offering heavy discount in the attempt to gain the market shares. This is a short term phenomenon. In the long term, low cost airlines need to implement the effective pricing strategies to establish the cash flow and to forecast the company's future income.

Pricing strategies have been assumed as a strategic financial control tool and weapon of choice for many low cost airlines in the competition for market share. Nevertheless, in a turbulent business environment (rising investment risks, intense competition among airlines and potential liability), there is a greater uncertainty and challenges to the success of the airlines' existing pricing strategy in fulfilling expectation of the customers. In the attempt to provide further insight into the link between price setting behaviour of the low cost airlines , this study presents an empirical research on the question of the *competitive pricing strategies of low cost airlines, the degrees of competitiveness and what are the factors that affect ticket price setting.*

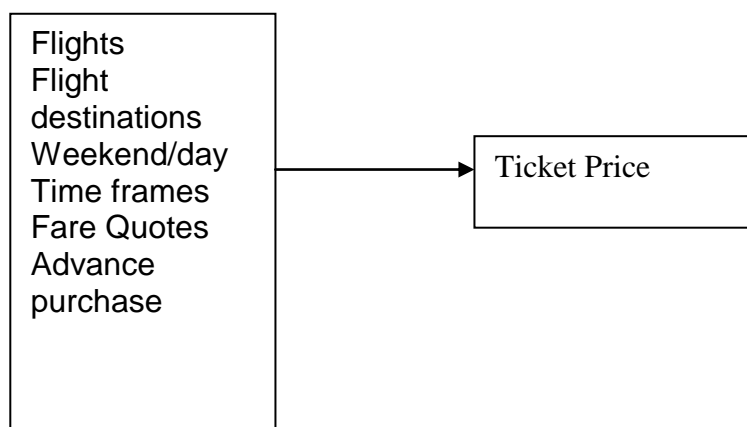
### Research Questions

1. Whether ticket prices of low cost airlines influenced by the different factors?
2. Whether there is a price leader in this industry?

### 3. The Methodology and Model

Data have been recorded for 60 days from 13 November 2009 until 11 January 2010 and 23 April 2010 to 21 Jun 2010, two regimes of time series primary data fare quotes have been obtained daily, for one way travel between Kuala Lumpur to Singapore and 6 other domestic routes. A total of 3913 ticket fare quotes have been recorded for the first observation and the second set data yielded 3970 fare quotes. Both sets of data have been submitted to Dickey Fuller Test for stationary, results of test implied that the data were significant.

### Conceptual Framework



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### a. Multiple Regression Analyses Based On the Below Equation.

Equation:

$$\begin{aligned}
 P_{ats} = & \alpha_0 + \alpha_1 I_{ats} + \alpha_2 I^2_{ats} + \alpha_3 F_1_{ats} + \alpha_4 F_3_{ats} + \alpha_5 F_4_{ats} \\
 & + \alpha_7 FD_1_{ats} + \alpha_8 FD_2_{ats} + \alpha_9 FD_3_{ats} + \alpha_{10} FD_4_{ats} + \alpha_{11} FD_5_{ats} \\
 & + \alpha_{11} FD_6_{ats} + \alpha_{12} TP_1_{ats} + \alpha_{13} TP_2_{ats} + \alpha_{14} TP_3_{ats} \\
 & + \alpha_{15} weekend_{ats} + \alpha_{16} FQ + \alpha_{17} AB_1 + \alpha_{18} AB_2 + \alpha_{19} AB_3 \\
 & + \alpha_{20} AB_4 + \alpha_{21} AB_5 + \alpha_{22} AB_6 + \alpha_{23} AB_7 + \alpha_{24} AB_8 + \alpha_{25} AB_9 \\
 & + \alpha_{26} AB_{10} + \alpha_{26} AB_{11} + \alpha_{27} AB_{12} + \varepsilon_{ats}
 \end{aligned}$$

Note:

P indicates ticket price	a indicate airlines
t is the date on which the fare was collected;	s is the date of flight
I stands for interval (i.e., days to departure $I = s - t$ );	F1 is the dummy variable for airline ( equal to one if airline is AirAsia and zero otherwise)
F3 is the dummy variable for airline ( equal to one if airline is Jetstar Asia and zero otherwise)	F4 is the dummy variable for airline ( equal to one if airline is Tiger Airway and zero otherwise)
F2 indicates Firefly as reference airline.	FD1 is the dummy variable for flight destination (equal to one if the flight destination is KL- Singapore and zero otherwise)
FD <sub>2</sub> is the dummy variable for flight destination (equal to one if the flight destination is KL- Penang and zero otherwise)	FD <sub>3</sub> is the dummy variable for flight destination (equal to one if the flight destination is KL- Langkawi and zero otherwise)
FD <sub>4</sub> is the dummy variable for flight destination (equal to one if the flight destination is KL- Kota Bahru and zero otherwise)	FD <sub>5</sub> is the dummy variable for flight destination (equal to one if the flight destination is KL- Alor Setar and zero otherwise)
FD <sub>6</sub> is the dummy variable for flight destination (equal to one if the flight destination is KL- Kuala Terengganu and zero otherwise)	FD <sub>7</sub> indicates KL- Johor Baharu and set as reference flight destination.
TF refers to time frame of departing, TF <sub>1</sub> is the dummy variable for time frame( equal to one if the time frame of departure is 6.00a.m - 12.00p.m)	TF <sub>2</sub> is the dummy variable for time frame( equal to one if the time frame of departure is 12.01p.m - 6.00p.m),
TF <sub>3</sub> is the dummy variable for time frame( equal to one if the time frame of departure is 6.01p.m - 12.00a.m).	
AB refers to advance purchase of the ticket, AB <sub>1</sub> is the dummy variable for advance purchase( equal to one if the ticket purchase within 59-55 before the actual date of departure)	AB <sub>2</sub> is the dummy variable for advance purchase ( equal to one if the ticket purchase within 54-50 before the actual date of departure)

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AB <sub>3</sub> is the dummy variable for advance purchase( equal to one if the ticket purchase within 49-45 before the actual date of departure)	AB <sub>4</sub> is the dummy variable for advance purchase ( equal to one if the ticket purchase within 44-40 before the actual date of departure)
AB <sub>5</sub> is the dummy variable for advance purchase( equal to one if the ticket purchase within 39-35 before the actual date of departure)	AB <sub>6</sub> is the dummy variable for advance purchase( equal to one if the ticket purchase within 34-30 before the actual date of departure)
AB <sub>7</sub> is the dummy variable for advance purchase( equal to one if the ticket booking within 29-25 before the actual date of departure)	AB <sub>8</sub> is the dummy variable for advance purchase( equal to one if the ticket purchase within 24-20 before the actual date of departure)
AB <sub>9</sub> is the dummy variable for advance purchase( equal to one if the ticket booking within 19-15 before the actual date of departure)	AB <sub>10</sub> is the dummy variable for advance booking( equal to one if the ticket purchase within 14-10 before the actual date of departure)
AB <sub>11</sub> is the dummy variable for advance purchase( equal to one if the ticket purchase within 9- 5 before the actual date of departure)	AB <sub>12</sub> is the dummy variable for advance purchase( equal to one if the ticket purchase within 4-0 before the actual date of departure)
ε = error term, α and ε are constant in this study.	

### b. Granger Causality Test

The lags term for these monthly data have been fixed from 1 to 19 and if the probability value greater than significance level  $P < 0.05$  then reject the hypothesis otherwise accept the hypothesis. The approach to test for Granger causality is to regress the current time series Y against the time series X to observe if jointly the coefficient associated with the x is statistically significant. Essentially, a Granger causality test looks at the pattern of variables over time to see if there is a pattern whereby one set of variable consistently precedes another for example Firefly consistently changes its fare 2 days in advance of AirAsia on the given route then this suggests Granger causality. E views 7 Microsoft package has been applied for Granger Causality test. The whole scenario was based on the following equation. The similar technique applied to all destinations.

$$PAA_t = \sum_{i=1}^n \alpha_i PFF_{t-1} + \sum_{j=1}^n \gamma_j PAA_{t-1} + \varepsilon$$

$$PFF_t = \sum_{i=1}^n \beta_i PAA_{t-1} + \sum_{j=1}^n \theta_j PFF_{t-1} + \varepsilon$$

Note:

PAA<sub>t</sub> = Price of Air Asia, PFF<sub>t</sub> = Price of Firefly,

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### 4. The Findings

Results indicate that ticket price is significantly influence by a few factors such as interval, flights, flight destinations, weekends, time frames and advance purchase. The Granger Causality test reveals that there is a significant causality relationship among low cost airlines' ticket prices in most of the destinations. There is no price leader in this oligopoly market structure, the price strategy trend tend to mimic Barometric leadership strategy.

#### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	105.073	15.144		6.938	.000
Interval	-1.627	.401	-.596	-4.063	.000
AirAsia	3.489	1.456	.037	2.396	.017
JetStar	-45.940	3.554	-.196	-12.927	.000
TigerAirway	-59.130	3.347	-.264	-17.668	.000
Singapore	55.019	3.086	.522	17.826	.000
Penang	33.694	3.205	.295	10.512	.000
Langkawi	69.898	3.344	.532	20.900	.000
Kota Bahru	42.766	2.844	.336	15.035	.000
Alor Setar	23.755	3.165	.122	7.507	.000
Terengganu	21.302	2.925	.121	7.284	.000
Weekend	13.016	1.207	.139	10.786	.000
6.am-12pm	-6.933	1.415	-.073	-4.899	.000
12.01pm6pm	3.698	1.531	.037	2.416	.016
Fare quotes	-3.423	.493	-.173	-6.944	.000
59-55	6.764	8.481	.040	.798	.425
55-50	12.533	6.601	.075	1.899	.058
49-45	23.902	4.885	.143	4.894	.000
44-40	21.656	3.405	.130	6.360	.000
34-30	-10.239	3.398	-.061	-3.013	.003
29-25	-15.227	4.863	-.091	-3.131	.002
24-20	-23.926	6.600	-.143	-3.625	.000
19-15	-18.342	8.462	-.109	-2.168	.030
14--10	3.385	10.393	.020	.326	.745
9-5	-12.367	12.315	-.073	-1.004	.315
4-0	3.490	14.309	.020	.244	.807

Dependent: Price

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### The results of Granger Causality Test (13 November to 11 January 2010) and (23 April to 21 Jun 2010)

Null Hypothesis	Destinations	13 Nov to Jan 2010	23 Apr – 21 Jun 2010
AirAsia did not granger cause Firefly	K.Lumpur - Penang	Accept	Reject
Firefly did not granger cause AirAsia		Accept	Accept
AirAsia did not granger cause Firefly	K. Lumpur - Langkawi	Accept	Accept
Firefly did not granger cause AirAsia		Accept	Reject
AirAsia did not granger cause Firefly	K. Lumpur – Kota Bahru	Accept	Reject
Firefly did not granger cause AirAsia		Reject	Accept
AirAsia did not granger cause Firefly	K.Lumpur– K.Terengganu	Accept	Accept
Firefly did not granger cause AirAsia		Reject	Accept
AirAsia did not granger cause Firefly	KualaLumpur – AlorSetar	Accept	Accept
Firefly did not granger cause AirAsia		Reject	Reject
AirAsia did not granger cause Firefly	K. Lumpur – Johor Bahru	Accept	Accept
Firefly did not granger cause AirAsia		Reject	Reject
AirAsia did not granger cause Firefly	K.Lumpur - Singapore	Accept	Accept
Firefly did not granger cause AirAsia		Accept	Accept
AirAsia did not granger cause Jetstar Asia		Accept	Accept
JetstarAsia did not granger cause AirAsia		Accept	Accept
AirAsia did not granger cause Tiger Airways		Reject	Reject
Tiger Airway did not granger cause AirAsia		Reject	Reject
Firefly did not granger cause Jetstar		Accept	Accept
Jetstar Asia did not granger cause Firefly		Accept	Accept
Firefly did not granger cause Tiger Airway		Accept	Reject
Tiger Airways did not granger cause Firefly		Accept	Reject
Jetstar did not granger cause Tiger Airway		Accept	Accept
Tiger Airways did not granger cause Jetstar		Accept	Reject

### 5. Summary and Conclusions

The result is consistent with the Bikoltach et al (2009) ticket price model where the ticket price is influenced by a few factors such as the time interval, weekdays/weekends and fare quotes. Based on the results of the Granger Causality Test, it can be concluded that in this oligopoly market structure there is no specific market leader. For example, ticket prices of Tiger Airways and AirAsia Granger cause each other on Kuala Lumpur to Singapore route, Granger Causality results indicate that ticket prices of Tiger Airways leads AirAsia's ticket price but the similar situation also occurs whereby AirAsia's ticket price leads Tiger Airways' ticket price. This causality phenomenon is even more obvious in domestic routes whereby the ticket prices of the two airlines are significantly granger cause each other.

Business is a game and every firm is vulnerable to attack by the competitors, for long term sustainability airlines need to play the role effectively in this game. Basically, airlines are facing "prisoner dilemma", two rival airlines operate from the same origin to a number of identical destinations. Moreover, the service package that they offered to the customers is very similar, so their rivalry reflected in their fare offerings. The trend of the fare pattern demonstrates that a firm responds to the aggressive pricing of the competitors by pricing more aggressively itself.

This study suggested that in long term profitability low cost airlines need to play different network strategies they need to sustain cooperative pricing behaviour as a stable equilibrium. They may compete aggressively for certain route but may form alliance – cooperate for other routes. In the prisoner's dilemma it is clear that without effective communication and understanding of mutual benefits the potential gains of cooperation will not materialise. Porter (1985) has defined two primary types of competitive strategies that can provide a source of competitive advantage i.e. differentiation and low cost strategy. The low cost strategy, which may be able to create a price leader position can lead to a price war and is therefore risky for low cost airlines. Ultimately, only one company can be the price leader. Thus all other companies should contemplate alternative strategies. The Chinese Warrior Sun Tzu had stated that "*Those who are not thoroughly aware of the disadvantages in the use of arms cannot be thoroughly aware of the advantages*". If airlines uses low prices as their competitive weapon they must be equally aware of the risks and benefits. Having low prices incurs some risks like the low quality trap where the consumers see the price as an index of the quality and the fragile market share of the low prices which can raise the market share but not the faithfulness of the clients. Hence, low cost airlines have to adjust their strategies to deploy alternatives when pricing alone is no longer effective.

Kim and Mauborgne (2005) argued that 'the only way to beat the competition is to stop trying to beat the competition'. They emphasized that success comes not from battling competitors but from making the competition irrelevant by creating 'Blue Ocean' of the uncontested market space. They further emphasized that company should go for strategic move by creating value innovation. Southwest Airlines created a blue ocean by offering high speed transport with frequent and flexible departures at prices affordable to mass of buyers. Besides this, Southwest Airline was able to offer unprecedented utility for travellers and achieve a leap in value with a low cost business model. It is obvious that for long term sustainability, competing in price is not a wise strategy. The patterns of fare setting where a low cost carrier has a



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monopoly, suggest that it can enjoy such an advantage but where there is competition on a route it is not clear that this advantage can be sustained. This study suggested that low cost airlines therefore should have the motivation to price cooperatively.

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