



**GARS 7<sup>th</sup> Aviation Student Research Workshop Paper**

**Title: A forecasting model for new entrant LCCs in emerging markets - Case study of AirAsia Airline in the Vietnamese market.**

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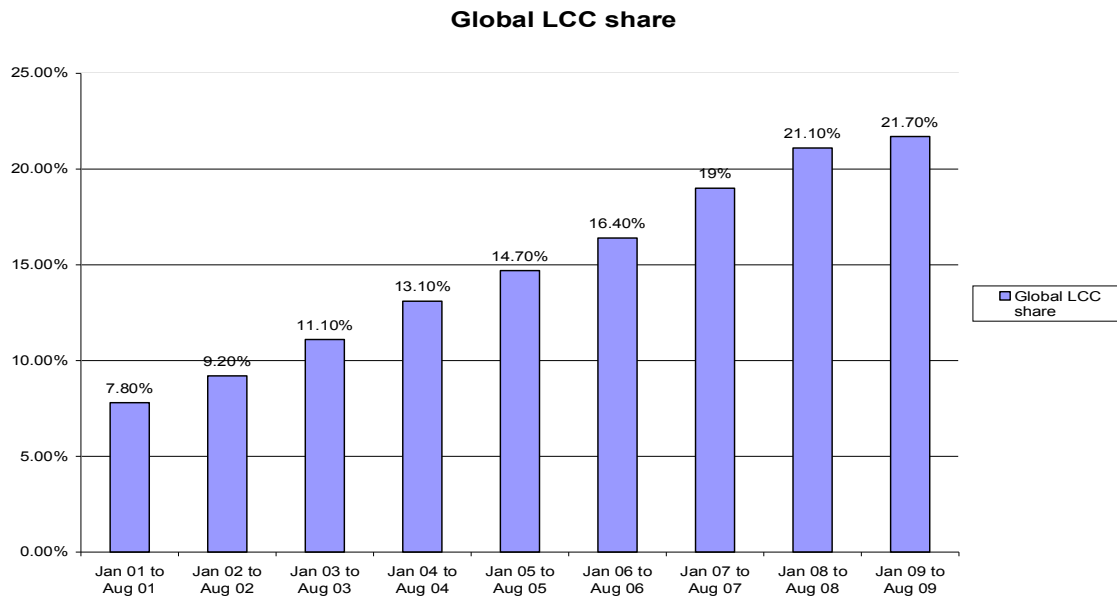
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## **1. Introduction**

Today, Low Cost is perhaps the most over-used term in aviation industry and it will be used even more in the future. With short-haul, low fare and no-frill flights, low cost carriers (LCC) have made fundamental changes in airline business model. The quick expansion of LCCs in US, Europe and Asia has given passengers the opportunity to travel by air with costs that they could have never imagined before.

As per the statistics of Centre for Asia Pacific Aviation, the proportion of global seats provided by low cost airlines has seen an extraordinary growth, from a mere 7.8% in 2001 to 22% in 2009 <sup>1</sup>.(See figure 01). This result is amazing especially in the situation of worldwide economic crisis, terrorist attacks and diseases. Hence, many people think that LCC is a moneymaker that they can use in all markets. But in fact, besides the success stories of Southwest Airlines, Ryanair, easyJet etc, many LCCs went bankrupt just after several years of operation. One of the biggest hidden problems behind these collapses may be improper business plans due to lack of air transportation data for market analysis. This fact is especially true in emerging countries where the aviation market is regulated by government authorities and is dominated by one or two major airlines. As these long-standing incumbents (legacy airlines) are not willing to share their operation data, new entrants will face many difficulties in market analysis and in business plan preparations. This paper therefore tries to build a simple analysis model based on data that can be easily found on internet and based on reasonable propositions to evaluate the market. By answering the checklist of this model, we can have an overview about the new market, what is the missing segment in the business environment of that market as well as the appropriated time to enter this market as a LCC. In this paper, almost data I use to support to my analysis model is US air transport data and they can be found on the internet.

## 2. Low Cost Carriers around the world.



*Figure 01 - Global LCC Share\_Source: Global LCC Outlook - Centre for Asia  
Pacific Aviation*

The first and foremost successful story of low cost airlines was in America with Southwest Airlines in Dallas, Texas. It is the only airline which has been profitable since 1973 till now and its model was copied and spread around the world. The key success of Southwest Airlines is to keep the product simple - from using single type of aircraft to no-frill flights, point to point flights, no reserved seat etc... Their success inspired a wave of new LCCs to enter aviation market. In early stages of 1980s and 1990s in the USA, the new start-ups tried to follow a low cost approach such as People Express, Continental Lite, Delta Express etc.

In Europe, the Irish airline, Ryanair became pioneer for the LCC wave after the liberation of flight market in European Union in 1980s. The two main LCCs in Europe - Ryanair and easyJet have indeed reached Europe scope: in 2004, they have transported 26.4 and 24.3 million passengers respectively <sup>2</sup>. Furthermore, both airlines have ambitious plans to expand their fleet as they have ordered 125/120 new aircrafts in 2002 with another option of 125/120 in 2003. Ryanair plans to carry 70 million passengers in 2012.<sup>3</sup>

In Asia, LCCs are a much more recent phenomenon. In 1998, the first two LCCs, Skymark Airlines and Air Do entered the Tokyo–Fukuoka route and the Tokyo–Sapporo route respectively. But the LCCs wave in Asia just exploded after the LCCs from Southeast Asia entered the market. The most successful story is AirAsia. Having benefited from the Malaysian aviation deregulation in 2000, Air Asia has converted from full service carrier to low cost carrier. This conversion has been successful. Today, AirAsia has become the major carrier in the region, operating right across the subcontinent and opening up the possibility of flying for many Asians who previously would never have considered it due to the cost. And from the success story of AirAsia, many low cost airlines have been established such as Tiger Airways, Jetstar etc.

### 2.1. The influence of economy in air transportation

The low cost model appeared in the early 1970s during the first major energy cost crisis in the US but it was really explosive just after the Airline Deregulation Act 1978. This act was born due to the rise in demand for air transportation after a period of high economic development with GDP growth rate of approximately 7%. Because of economic prosperity, the demand of air transportation for business, tourist, etc grew up leading the expansion of airlines scale to meet new demand. This fact is proved in figure 02 and 03 that shows the correlation between US real GDP, Revenue Passenger Miles (RPM) and Available Seat Miles (ASM). In figure 02, before airline deregulation in 1978, the growth rate of GDP and RPM was almost the same but after the deregulation RPM growth rate has been faster than GDP growth rate.

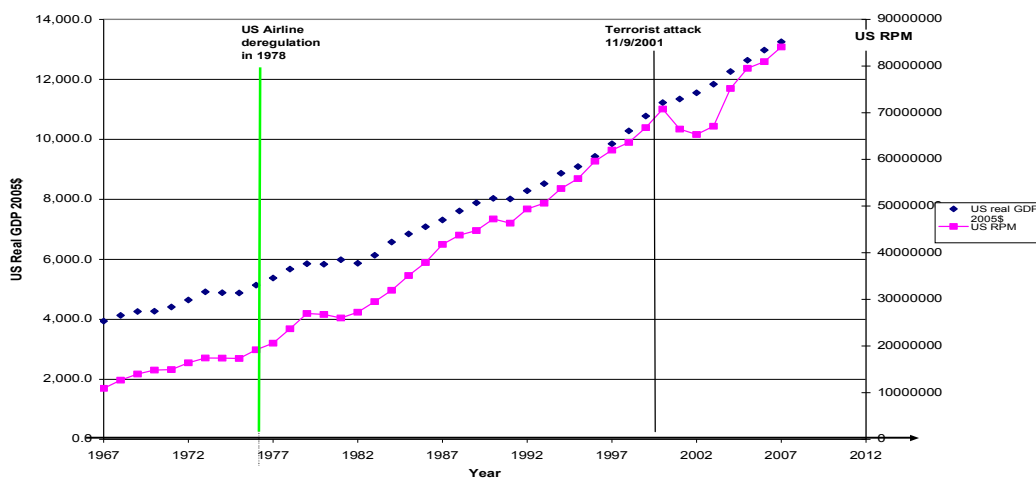


Figure 02 - US GDP vs. RPM - Sources: ATA annual report

Similarly, figure 03 shows an agreement between US RPM and US APM

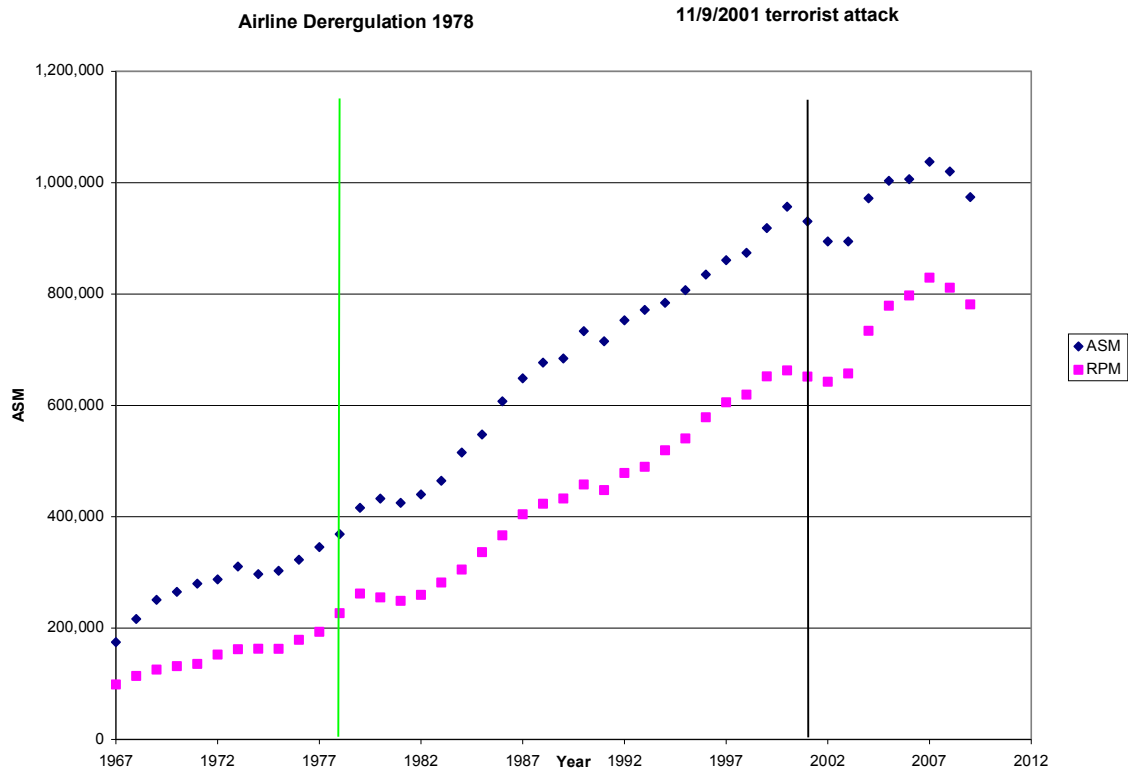


Figure 03\_US ASM vs US RPM\_Source: ATA annual report

From figure 03 we can see that US airlines responded quickly to the increase of air transport demand, especially after the Deregulation Act of 1978, the development of airline scale (ASM) was even faster than that of air transport demand.

## 2.2 - The influence of aviation deregulation in Air Transportation and LCCs

Going back to the history of US market before 1978, the US air-transportation industry was regulated by CAB (Civil Aeronautic Board). This Board regulated three principal fields in air-transportation industry, they were:

- Entry: prescribe which routes will be flown, the cities to be served, and the airlines to provide the service.
- Rates: determine whether fares are “just and reasonable” and authorize the airfares in different routes.
- Antitrust: the authority to approve or disapprove a number of airline agreements, some of which violated major antitrust laws.

The entry regulations were accused to create an “inefficient routing decision” system because it prevents a new entrant who may be more efficient than an incumbent to enter

the market. Or rate setting by the CAB creates a sub-optimal fare structure that didn't reflect the interplay between "demand" and "supply"<sup>4</sup>. This led to the fact that customer had to pay higher airfares than what would have been paid in an unregulated market. But after 1978 when the Act of Airline Deregulation came into effect, all these barriers were removed and that paved way for the development of a new airline business model, the low cost carrier. The most successful low cost carrier model ever known is Southwest Airlines which is the only one airline to have been consistently profitable for the last thirty five years (Repeating). The principal aspects of Southwest Airlines are as below:

<b>Simple product</b>	
Fares	Low
	Simple
	Point to point
	No interlining
Distribution	Travel Agent (16% in 2003) and direct sales (84%)
	Ticketless
In-flight	Single class, high density
	No seat assignment
	No meals
	Snack and light beverages only
Frequency	High
Punctuality	Very good
<b>Simple operation</b>	
Aircraft	Single type (Boeing 737) – three variants
	High utilisation (over 11 hours/day)
Sectors	Short – but growing (1994 average: 394 miles, 2003 average: 566 miles)
Airports	Secondary or uncongested --> 15-20 minute turn around
Growth	Target 10 per cent per annum, maximum 15 percent
Staff	Competitive wages
	Profit sharing since 1973
	High productivity

Table 1: The Southwest Airlines low-cost, no-frills model (Doganis 2006) <sup>5</sup>

From the table 1, we see many aspects of Southwest Airlines can only be realized in unregulated market. For instance, the most powerful weapon of LCC is airfare. LCCs normally try to sell their ticket two third below existing full services airline economy fares. But under regulation of CAB, the airfares were determined by examining the costs and revenue figures for the entire airline industry. It then adjusted these figures to determine what cost and revenue would have been, had the entire airline industry operated with a load factor of 55 percent (it assumed that planes should fly at this level of capacity). A 12 percent return on investment was added to determine the total cost that had to be covered by revenue. Finally, fares were set to generate revenue to cover costs, with adjustments made for the distance of different routes<sup>6</sup>. This method is “cost –based pricing” rather than “demand-based pricing” and it created a barrier for airlines who wanted to reduce their fare. Besides, the Entry rule prohibited airlines from expanding their network because of its rigid and inefficient procedures. If an airline wanted to open a new route, they have to submit all necessary documents to CAB and have to prove the public demand on that route, and this work often took a lot of time. An example in history, World Airways applied to begin a low-fare New York City to Los Angeles route in 1967; the CAB studied the request for over six years only to dismiss it because the record was "stale." Continental Airlines began service between Denver and San Diego after eight years only after a United States Court of Appeals ordered the CAB to approve the application. While LCC’s strategy is to avoid head-on competition by taking under-served route and to create more air transport demand by reducing cost fare, the Entry rule therefore prevent them from beginning.

### **2.3. Other terms influence to development of LCCs**

Population growth and economic wealth or market Deregulation may be necessary conditions but they are merely not sufficient for the spread of LCC. Certain countries such as New Zealand experienced early deregulation but relatively less low cost growth until 2004, while in mainland Europe low cost activity gained momentum at least four years after full deregulation. The spread of low cost airline seem to be affected by some other factors as I propose below:

- The availability of secondary airports with appropriated handling equipment.
- Big number of Internet user, available of online payment.

- Availability of competent labor.

The first condition is availability of secondary airport with appropriated handling equipments . This condition is important because LCC must maintain high utilization of their aircraft (more than 11 hours/day) by reducing turn around time. In congested airport, this practice is very difficult to realize due to overload situation of the aircraft. Besides, LCCs negotiate hardly on landing fee and ground services to minimize cost, therefore using secondary, un-congested airport give them higher position in negotiation.

Moreover, almost business activities of LCCs are carried out on internet to save costs, from advertisement, sale of ticket, check-in or cancellation. Therefore, internet users are the most potential customers of LCCs.

The last but not less condition is availability of competent labors. Lacking of competent labors in emerging market creates many difficulties to new entrants because incumbent airlines normally keep their key persons by long-term contract and big penalty if they want to leave. Hence, if new entrants want to attract these competent labors, beside commitment of higher salary, they normally pay for leaving penalty of that employee too. This transaction, of course, will increase unit cost of LCCs.

### **3. Analysis model**

Both US and Europe before deregulation had a long period of prosperity with high GDP growth rate. As part of this overall growth, a growing segment of middle-income people started to switch to air transport from bus, rail, and ferries for their domestic and international trips. The new customers required more options in airfare and flight routes, two factors that were controlled under regulated market. So the increase in air traffic demand pressurised aviation authorities to improve their system to meet new changes. Additionally, during prosperity period, many airlines expanded their fleet (see figure 03 for ASM). As demand was high, airlines gained a lot of profit between 1973 to 1979, but there were two oil crises that influenced the fuel price and economic growth. In that situation, the airlines that had expanded their fleet during prosperity period had to reconstruct their company to ensure higher productivity while maintain the lower fares. On one hand, airlines themselves, not customer, wanted to deregulate aviation market to have more options for their business plans and on the other hand, government also wanted to encourage air transportation to save the economy. After all US aviation market

was deregulated in 1978. I call the prosperity period of economic development as the accumulated period when more people made acquaintance of air traveling and airlines expand their fleet to meet new demand. And the economic shock (crisis) after that can be considered as a catalyst to make the process of aviation deregulation carry on. The period after deregulation called *exploded period* was the appropriated time to start a LCC.

My analysis model helps planners to determine where they are, and what segments are missing in the market. The hypotheses are as below:

- 1\_ The average economic growth rate is about 6% and occurs in at least 5 years: This hypothesis is based on the fact that LCCs need to have a development rate from 10% to 15% and the growing rate of LCCs is double that of economy.
- 2\_ In a regulated market, during prosperity period, if a crisis that influences demand or fuel price occurs, then a market deregulation can be expected in near future.
- 3\_ The market also needs other conditions to develop LCC model:
  - + Availability of secondary airport system with appropriated handling equipment
  - + Competent labors
  - + A big amount of internet users
  - + Availability of on-line payment.

After determining all information required above, we put all data in the analysis model described in the figure below to find out where we stand

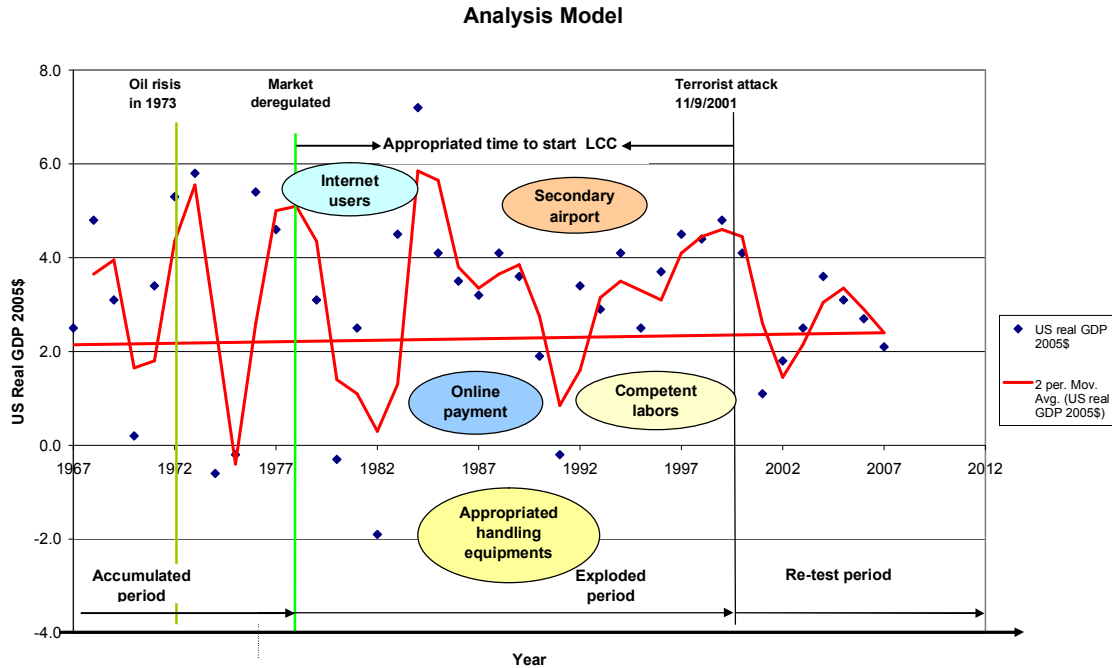


Figure 02\_ Analysis model

According to this model, the appropriated time to enter a market as LCC is during the “exploded period” (deregulated aviation market, GDP average in 05 year above 6%) and the market has following conditions: availability of secondary airport with appropriated handling equipments, big amount of internet users, competent labors, and convenience of online payment.

#### 4. Case study: Analyze the case of AirAsia in Vietnamese market. Can Air Asia succeed in Vietnam?

**4.1 Introduction:** AirAsia is the leading LCC in Asia, with slogan “Now, Everyone Can Fly”. Started as an LCC in 2001, AirAsia has developed from an airline with debts to one of the most profitable airline in Asia. The AirAsia Group carried 18.3 million passengers in 2008 and reached its 50 millionth passenger milestone in June 2008, after only six years of operations. The Group now confidently expects to carry 60 million passengers per annum by 2013, as it forecasts and achieved a capacity growth of 20% in each quarter of 2009. The rapid expansion of AirAsia is also demonstrated by share purchasing of other airlines as well as mergers. In January 2004, AirAsia formed a joint venture with a

company of former Thailand Prime Minister Thaksin Shinawatra, Shin's Corporation, called Thai AirAsia.

**History:** Air Asia was established in 1993 but it started the first flight in November 1996. In 2001, the heavily-debted airline was purchased by former Time Warner executive Tony Fernandes's company Tune Air Sdn Bhd for the token sum of one Ringgit and was converted to a competitive cost airline. Just after one year from reconstruction, AirAsia registered profits in 2002. This achievement came from AirAsia's business strategies such as quick turn around time and maximizing flight utilization while continuously maintaining the most important elements like safety, service and security. AirAsia provide no-frill services on the flight but passengers are given a choice of purchasing a variety of food and drinks on board at low rates. Additionally, AirAsia is point to point and does not encourage connecting flights. For fleet development, AirAsia replaced the existing B737-300s with A320-200s. This conversion began with the first order made for 40 Airbus A320 aircrafts and 40 more on option in a Memorandum of Understanding made on 17 December 2004. AirAsia is currently the largest customer for the Airbus A320, having placed a firm order for 175 aircraft, plus additional 50 options, with deliveries scheduled through to 2014.

**Expansion:**

- Thai AirAsia: In January 2004, AirAsia formed a joint venture with a company of former Thailand Prime Minister Thaksin Shinawatra, Shin's Corporation, called Thai AirAsia.
- Indonesia AirAsia: In November 2004 AA International Limited, the company that is 99.8% owned by AirAsia, successfully concluded a sales and purchase agreement with the Indonesian private airline AWAIR. In December 2004, AWAIR was re-launched successfully as an LCC serving Indonesian domestic routes. Indonesia AirAsia was, in the following December, established through AWAIR.
- AirAsiaX: is a service operated by AirAsia X Sdn. Bhd. (previously known as FlyAsianXpress Sdn. Bhd.) as a franchise of AirAsia. It offers long-haul services from Kuala Lumpur to Australia and China using an Airbus A330-300. Its inaugural flight was on 2 November 2007 to Gold Coast, Australia.

- Vietjet Air: On February 2010, AirAsia announced that it has purchased a 30% stake in Vietjet and wanted to change the name to Vietjet AirAsia but it hasn't been approved by Civil Aviation Authority of Vietnam (CAAV) yet.

**The key success of AirAsia:**

- Benefit from domestic flight deregulation: Malaysia started deregulating aviation industry in 2000. This created the opportunity for new entrants to join the aviation market but it also decreased the profit of incumbents (Malaysia Airline, AirAsia) because they have to compete (mostly in fare) with themselves and with new entrants. This situation forced airlines to reconstruct their business model to be highly productive or they would lose profits. In the case of AirAsia, they were nearly bankrupt in 2001 and had to change to low cost model. The same story occurred with AirAsia's expansion in Thailand and Indonesia. They entered Thailand and Indonesia market after market deregulation.

- Single-class and no-frills service: AirAsia operates a single class service with no amenities, such as complimentary in-flight meals and entertainment, frequent flyer programs (FFPs) and airport lounges;

- Short distance routes with point to point network: their route strategy is to target market within 4h flight time from their base and focus airports. Most routes are within 3h flight time and are direct flights. This keeps operation simple and costs low.

- High aircraft utilization and efficient operation: implementing the regions fastest turnaround time at only minutes, assuring low costs and higher productivity.

- Low fixed cost: AirAsia has negotiated lower aircraft lease charges and lower rates for long-term maintenance contracts.

- Low distribution cost: to encourage more internet booking, AirAsia provides the cheapest air fares on the internet. It employs a fully ticket less system, which saves administrative and related expenses.

- Single aircraft type: operating a fleet of similar aircraft leads to cost saving by simplifying maintenance and reducing spare inventory requirements. In line with its growth and expansion plan, A320s would gradually replace the existing Boeing B737.

In conclusion, AirAsia's strategy shows that they follow strictly the successful formula of Southwest Airlines.

#### 4.2. Why AirAsia want to enter Vietnamese market

**About Vietnam:** Vietnam with a population of 86 million, the third populated country in ASEAN, is a promised market for the development of air transportation. Vietnam has had a long and stable growth period from 2000 to present (see the chart below):

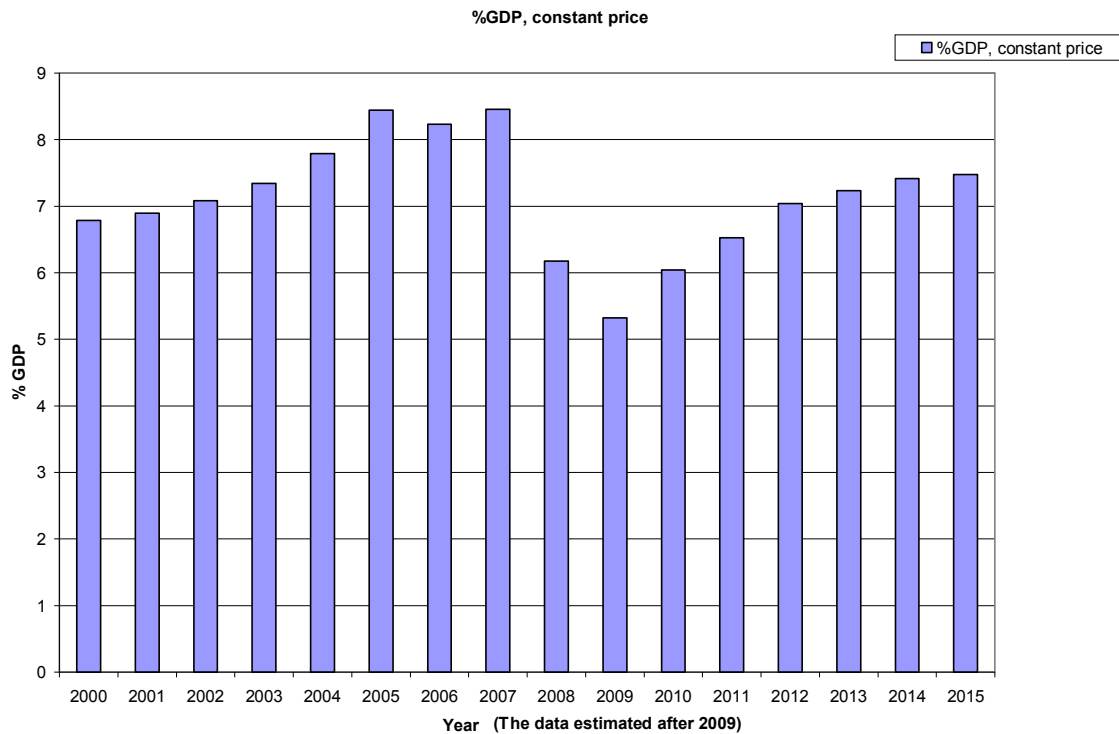


Figure 03\_ Vietnam GDP growth rate (source IMF data)<sup>8</sup>

As the figure 02, the average growth rate of Vietnam in recent years is more than 7%. Although there is a down shift in 2008 and 2009 due to world economic crisis, it is expected to recover from 2011. As discussed above, there is a correlation between GDP growth rate and air traffic growth rate (RPM) and so we can estimate that the demand of air transportation in the period 2000-2009 also increased quickly. Vietnam aviation market now is dominated by Vietnam Airlines ; the other two airlines Jetstar Pacific and VASCO have only a very small share. Vietnam Airlines has 85% market share of the domestic market with Pacific Airlines capturing 15% while the Vietnam Airlines share of the international market operated by Vietnam based airlines is more than 92%. Beside the reason of economic wealth, another reason supporting for Air Asia decision is due to geographical position of Vietnam. Laying between South East Asia and China,

Vietnam seem to be the ideal choice to expand Air Asia's routes to the most crowded market, China (including Hongkong, Macau), Taiwan or even to North East Asia countries such as Japan and South Korea.



Figure 04 \_ AirAsia routes network (source AirAsia home page)<sup>9</sup>

### **4.3 How AirAsia entered Vietnamese market**

In Vietnam, domestic flights are still protected by law in which foreign carriers are not prohibited. In Feb 2010, AirAsia announced the completion of buying 30% shares of Vietjet Air. As the first private airline in Vietnam, Vietjet Air was granted permission to operate in December 2007 but they had to delay their plan several times due to the influence of world economic crisis in 2008 and 2009. This step of AirAsia is similar to the way of Jetstar Airways when they entered Vietnamese market by owning 30% shares of Pacific Airline, a second state-owned airline in Vietnam, and changed its name to Jetstar Pacific. It is no doubt that AirAsia want to built Vietjet Air in low cost model as they said in the signing ceremony that they want to change the name of Vietjet Air to Vietjet AirAsia, a similar name to their subsidiary LCCs: Thai AirAsia and Indonesia AirAsia.

#### 4.4 \_ Can AirAsia succeed in Vietnam?

When looking at countries where AirAsia Groups have hubs, there are some evident similarities among the countries. Firstly, AirAsia has the right to exploit domestic routes. As the hub in Kuala Lumpur and Joho Bahru, AirAsia is a domestic airline. For other two hubs in Thailand and Indonesia, AirAsia also have the rights to fly domestic by acquiring share or joint venture in Indonesia AirAsia and Thai AirAsia. All of two countries have deregulated airline industry (since 2000) and both are tourist points (Bankok, Bali). Moreover, both Thailand and Indonesia have a good GDP growth rate since 2000s (more than 05%). In Thailand and Indonesia, AirAsia is based in secondary, un-congested airports.

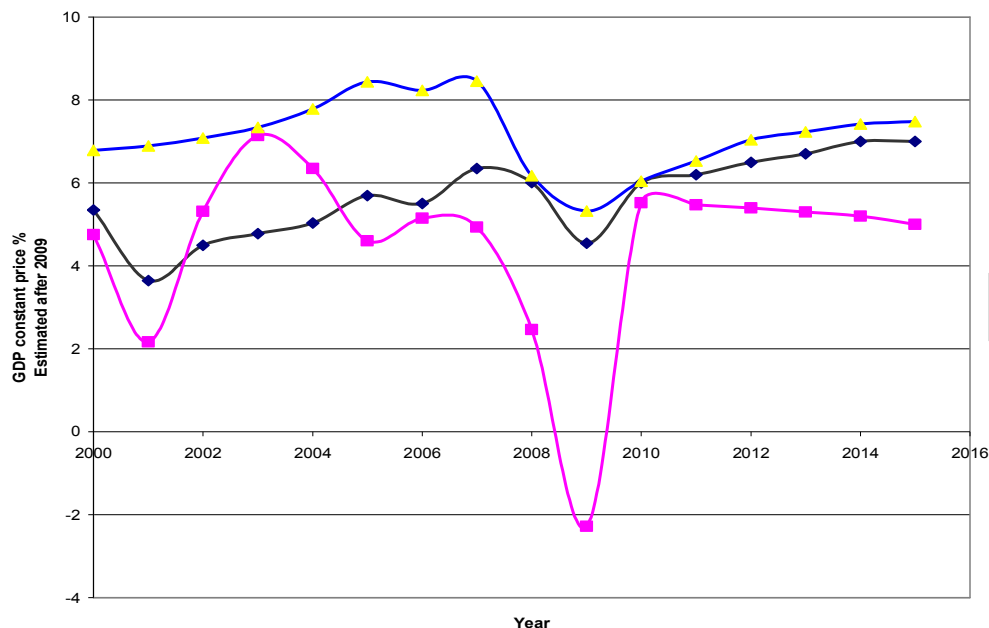


Figure 05\_ GDP growth rate of Indonesia, Thailand, Vietnam (Source: IMF webpage)

#### But Vietnam market is quite different than Thailand or Indonesia market

- **A regulated aviation market:** Vietnam aviation market has not been deregulated yet. This influences two aspects: Fare and Route. For airfare control, Ministry of Finance and Ministry of Transportation work together to determine a fare frame base on the “reasonable cost” of airlines, demand and supply of routes, service quality and cost comparable with air fares in other ASEAN countries. For domestic flight routes, if an

airline wants to open a new route, they are requested to show public need when apply to Ministry of Transportation for ratification.

- **Have a good GDP growth rate:** as indicated in figure 04, Vietnam has a high and stable GDP growth rate (about 7%) which is better than Thailand and Indonesia. The economic development lead to the increase in air traffic demand and therefore created opportunities for new entrants. A good test for this confirmation is the case of Indochina Airline, another Vietnamese private airline started in November 2008 with domestic flight. During operation, the load factor of Indochina Airline is always about 80%. This is a very good ratio especially for a new full service airline (Indochina Airline is not LCC). But because of many reasons, Indochina Airline had to stop their flight just after one year of operation in Nov 2009.

- **Lack of secondary airport in main destination:**

Vietnam has long length shape with three main airports distributed in the North (Noibai INTL), in the middle (DaNang INTL) and in the south (TanSonNhat INTL). In that three main stations, only Hanoi have secondary airport but this is also Military-Civil joint use airport.

Airport	ICAO ID	City	Dimension	Operating Agency
Noi Bai ITL	VVNB	Hanoi	12466 x 148 feet 3800 x 45 meters	Military - Civil joint use airport
Hanoi Gia Lam	VVGL	Hanoi	6565 x 148 feet 2001 x 45 meters	Military - Civil joint use airport
DaNang ITL	VVDN	Danang	10000 x 148 feet 3048 x 45 meters	Military - Civil joint use airport
TanSonNhat ITL	VVTS	HoChiMinh	12468 x 148 feet 3800 x 45 meters	Civil government, (landing fees and diplomatic clearance may be required)

Table 02\_ Airports in main stations of Vietnam

Applying analysis model mentioned in part 3 to determine where Vietnamese market is, we have figure as below:

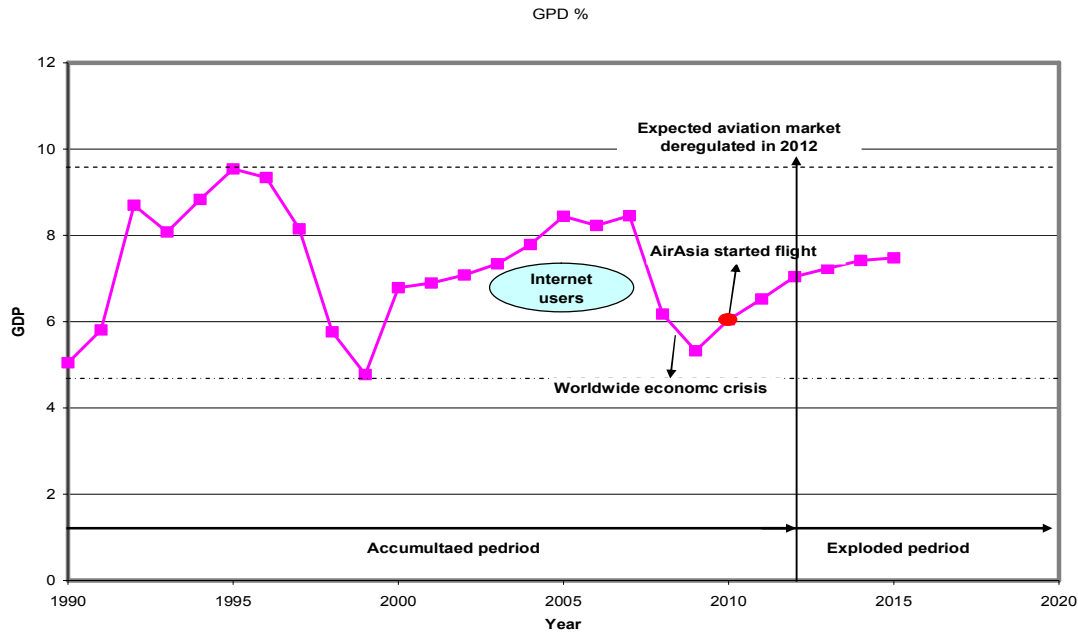


Figure 06 \_Analysis model of Vietnam market

As per the figure above, Vietnam aviation market is being in *accumulated period*. Although the economy has high GDP growth rate (about 7%/year) but the aviation market is still regulated by CAAV (Civil Aviation Authority of Vietnam). Thereto, global economic crisis which occurred during 2008-2009, has influenced to the economy and therefore has influenced to air transport demand. As we discussed in part 3 of this paper, the economic crisis in 2008-2009 can be considered as a catalyst for deregulating the aviation market and we can expect the deregulation to occur in near future.

**5. Conclusion** Air Asia had a wise step to chose Vietnam as a part of their expansion strategy. Because Vietnam is one of the most dynamic economic in South East Asia with high GDP growth rate, about 7%, and lied on a strategic position between South East Asia and North East Asia. Vietnam also is a populated country with 86 million people that promises a high demand of air transportation once the economy grows up. But on the other hand, Vietnamese market still have disadvantages that can prevent a LCC from success such as: un-efficient regulated market, lack of competent labors, lack of infrastructure in secondary airports, inconvenient online-payment etc... Therefore, Air Asia can be successful unless they have appropriated plan to cover all disadvantages in Vietnamese market while preparing enough budget to compensate all losses that may occurred until “exploded period” of Vietnamese market.

## **Notes:**

<sup>1</sup> Centre for Asia Pacific Aviation, Global LCC Outlook Report, 2009, p63.

<sup>2</sup> Airlines. Ryanair: from December 2003 to November 2004

<sup>3</sup> Ryanair, Boeing & Ryanair—The Lowest Cost Partnership  
(available at [www.ryanair.com](http://www.ryanair.com)).

<sup>4</sup> Jagdish N. Sheth, Fred C. Allvine, Can Uslay, and Ashutosh. *Deregulation and Competition*. 2007.

<sup>5</sup> Rigas Doganis\_ *The Airline Business*\_ 2006

<sup>6</sup> Jagdish N. Sheth, Fred C. Allvine, Can Uslay, and Ashutosh. *Deregulation and Competition*. 2007, p23.

<sup>7</sup> Francis et al, *Where next for low cost airlines*, 2006

<sup>8</sup> Vietnam GDP growth rate\_ Source IMF data viewed as 04 June 2010,  
<http://www.imf.org/external/pubs/ft/weo/2010/01/weodata/index.aspx>

<sup>9</sup> Air Asia routes map: <http://www.airasia.com/my/en/travelinformation/routemap.html>  
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