

An analytical model for the assessment of airline expansion strategies

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Abstract

Purpose: The purpose of this article is to develop an analytical model to assess airline expansion strategies by combining generic business strategy models with airline business models.

Design/methodology: A number of airline business models are examined, as are Porter's (1983) industry five forces that drive competition, complemented by Nalebuff and Brandenburger's (1996) sixth force, and the basic elements of the general environment in which the expansion process takes place. A system of points and weights is developed to create a score among the 904,736 possible combinations considered. The model's outputs are generic expansion strategies with quantitative assessments for each specific combination of elements inputted.

Originality/value: The analytical model developed is original because it combines for the first time and explicitly elements of the general environment, industry environment, airline business models and the generic expansion strategy types. Besides it creates a system of scores that may be used to drive the decision process toward the choice of a specific strategic expansion path.

Research implications: The analytical model may be adapted to other industries apart from the airline industry by substituting the element "airline business model" by other industries corresponding elements related to the different specific business models.

Keywords: airline expansion strategies, analytical model, airline business models, industry forces, general environment, generic expansion strategies.

1. Introduction

The expansion strategy adopted by a specific airline is most influenced by three groups of elements. First, the business model chosen by the organization to better exploit opportunities, considering its competencies and limitations. Second, the industry environment where the business dynamics take place, including competition, suppliers, buyers, potential new entrants, substitute transportation services, and complementors (Nalebuff & Brandenburger, 1997). Third, the general environment, where the airline is located, involving economic, geographic, demographic, legal and political aspects, which delineates the scenario where the organization aims to survive.

This paper follows the theoretical assumptions of the industrial organization school (or IO, for short), which recommends that the identification of external opportunities should come in first place and the promotion of a firm's adjustment to better exploit the opportunities identified should come in a second stage. According to this school, all resources and competencies can be bought in the market if they don't exist in the firm (Porter, 2008; Ghemawat, 2002). Thus, core competencies, for instance, will be assumed as being implicit in each airline business model.

This paper discusses these aspects developing a conceptual framework at the end.

2. Airline business models

Airline business models can be classified using two basic dimensions: sophistication and fulfilment of services and the stage length of flights, as shown in Figure 1 below, which shows Boeing's view of current airline business models. The first dimension is related with the consumer target whilst the second is related with the operational platform used by the airline. Figure 3.1 below

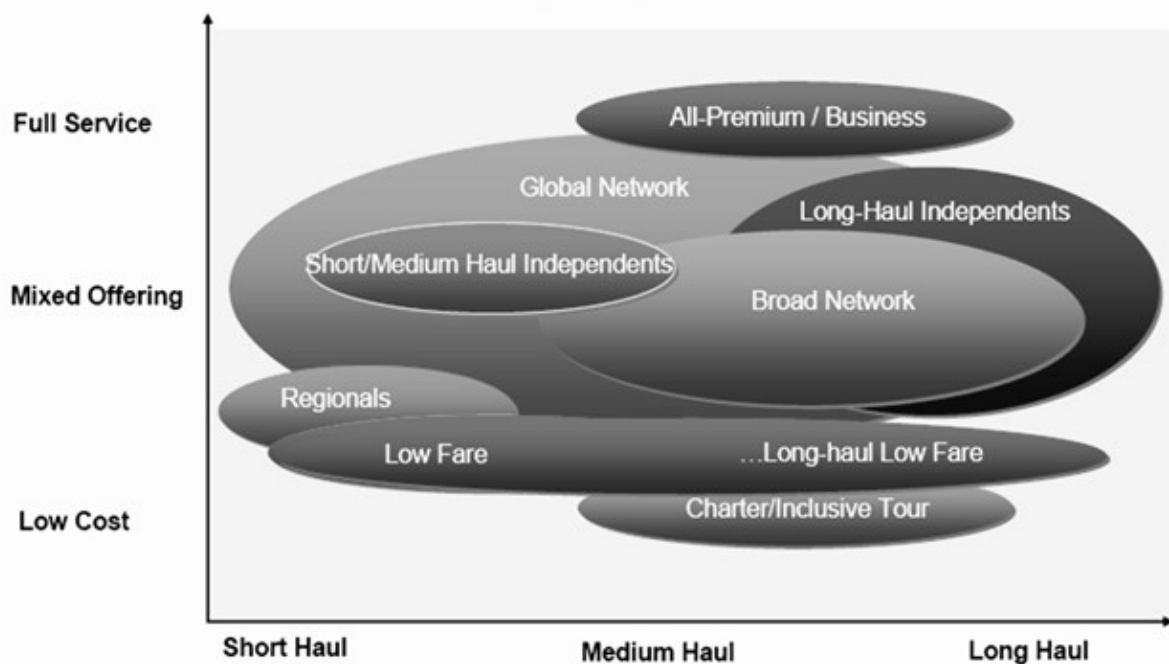


Figure 1. Airlines Business Models (Source: Boeing Company, Airline Strategy and Business Models, unpublished, 2007 Airline Planning Seminar's supporting media)

The dimensions represented in figure 1 – flight stage length and level of services supplied – reflect the main characteristics of a specific air service, i.e. the most important operating features, which are associated to the type of equipment to be used, and the level of comfort intended to be supplied. In other words, the main operating and marketing aspects are considered in abscissa axis and ordinate axis, respectively. Another important feature of Boeing's classification is its scope, which encompasses many different -if not all – types of airlines.

Boeing's taxonomy (2007) is not precise about the meaning of short, medium and long haul flights. However, for the purpose of this paper, short haul flights are understood as being those of less than 3 hours duration; long haul flights are assumed as those of more than 6 hours of duration, while medium haul flights are those between 3 and 6 hours duration.

Boeing's classification is also not precise about the services offered by the different kinds of airlines. So, it is also assumed in this paper that low cost airlines are those carriers that offer a simplified service focusing their marketing efforts almost exclusively on reduced prices. Full-service airlines are understood here as being those carriers that offer a broad scope of services, including dual or more cabin classes, large networks, cargo services, etc. and, as consequence, their marketing efforts are not exclusively concentrated on prices. Mixed offering airlines are assumed as being those airlines whose service offers are in an intermediate

position between full service and low cost airlines.

Obviously, airlines have different core competencies that lead their competitive movements, including expansion strategies. For instance, Ryanair's core competency is its capability of supplying basic services at a very low cost, but staff friendliness to passengers probably is not. British Airways' core competency is related to creating brand loyalty by offering superior services, but low costs are not its main concern. Southwest's core competency is its human resources' motivation, which is managed in order to provide to clients a friendly service. American Airlines core competencies are its network and its frequent flyer program, Advantage, but staff courtesy is clearly a competitive weakness.

In short, each airline has competencies and limitations on which their strategies lay. Combining these elements with the business model chosen makes it possible to delineate the strategic scope that an airline can consistently adopt. According to Boeing's classification, the airlines business models are the following:

- "Broad Network" airlines are medium to large sized carriers and offer services of intermediate sophistication. They concentrate on medium to long haul operations.
- "Global" airlines are a business model applicable to large and complex airlines, operating in several continents as well as domestic markets.
- "Short Haul / Medium Haul Independents" are airlines that offer a mid-sophisticated service mix and concentrate their efforts on markets with a flight time not longer than 3.5 hours.
- "Long haul Independents" have the same features as "Short Haul/Medium Haul Independents". However, on long haul flights amenities offered play a more important role to passengers than in short or medium haul flights.
- "All Premium / Business" airlines explore the very wealthy passengers' niche. They charge relatively high fares, but their rates are often lower than the business-class or first-class fares charged by global airlines.
- "Regionals" are airlines that operate short distance flights. Most of the time, their main competition are the other means of transportation, such as trains, buses or individual vehicles.
- "Charter / Inclusive Tour" airlines offer non-scheduled services, which often involve tourist packages at very low prices. In general these airlines fly from big cities to tourist destinations offering simplified services in high density configuration aircraft.
- "Low Fare" airlines are also called "Low Cost Carriers", or LCCs. These airlines emerged in the United States in the late 1970s following the Air Deregulation Act of 1978. In

Europe the same happened fifteen years later when the liberalization process took place. Because indirect costs and operating expenses tend to represent smaller proportions of total costs as flight stage length increases, LCC's cost advantage over legacy carriers tend to reduce on longer flights (Moreira, O'Connell & Williams, 2011).

3. Industry environment in the airline business

The industry environment refers to the airline's external environment that influences most directly its operations. As defined by Burgeois III (1980), industry environment corresponds to the task environment. As a consequence, industry environment should be understood as being influenced by a firm's secondary strategies, as defined by the author.

Although the Five Forces of Competition Model formulated by Porter (1983) is not new it has been one of the most popular analytical frameworks for evaluating any industry's environment. However, as the airline industry is particularly affected by governmental rules and policies, the use of Nalebuff and Brandenburger's (1997) sixth force concept in addition to Porter's (1983) model appears to be more robust at analyzing this industry.

In spite of the importance of these contributions the literature is very poor with relation to the application of Porter's Five Forces model and that of Nalebuff and Brandenburger's Value Net model to the airline industry.

3.1 Suppliers' bargaining power

The main suppliers in the air transport industry are aircraft and spare parts manufacturers, banks with specific financing lines, aircraft lessors, fuel suppliers, distribution systems (in particular the Global Distribution Systems-GDS), airports and aeronautical infrastructure providers.

Aircraft manufacturers are very concentrated with few examples where there are more than two alternatives for the same class of aircraft. The huge investment required, the inherent gains of scale in production processes and the extensive technology existing in this industry probably are the main factors contributing to its high concentration. As a consequence, aircraft manufacturers' bargaining power is considerably high, their technological developments being one of the main drivers of the airline industry.

Lessors are intermediates between manufacturers and operators, buying airplanes and renting them to airlines. The lessors' sector is a less concentrated sector than that of the manufacturers' and has a proportionally smaller bargaining power. Differently from the manufacturers' sector, among lessors the technology applied is not high and gains of scale and

capital requirements are not so intense. As a consequence, barriers to entry in this sector are not high and players are numerous.

In general, fuel suppliers have a small bargaining power because they are numerous and their product is a commodity. However, in some countries governments create artificially high barriers to entry in order to protect their state owned oil companies. When that is the case, fuel suppliers' bargaining power increases significantly.

Airports are the strongest players in the air transport production chain because there are high entry barriers, which are even higher in cities or regions served by only one airport. As a consequence, their financial margins are significantly higher than those of the airlines (Pagliari, 2008).

Global Distribution Systems – GDS are worldwide systems that connect airlines reservation systems to travel agents terminals. Because a great proportion of sales are made through travel agents, GDSs correspond to sales channels which represent 70 to 80% of tickets sold. The four more important existing GDS are: Sabre, Amadeus, Galileo and Worldspan. By having enormous bargaining power, GDS's charge US\$2.00 to US\$6.00 per booking, depending on the connectivity, contract territorial range, etc. irrespective of the booking effectiveness.

The Internet has been a great threat to GDSs. This is the reason why the GDSs are changing their strategy, repositioning themselves as "engine providers" to online travel agents (Worldspan and Expedia, for instance), or acquiring online travel agents (Galileo and Amadeus). Their purpose is to reduce booking fees charged.

On the other hand, because the airline industry's suppliers -such as reservation systems providers, catering and handling providers and other airport services suppliers- are smaller sized and, in general, more profitable than the airlines, they don't represent to airlines a threat in terms of forward vertical integration.

3.2 Buyers' bargaining power

Air transport passenger services consumers can be segmented into business motivated travellers and passengers travelling for other purposes. Business travellers may be classified as those connected to corporations, to medium and small firms or self-employed. Passengers travelling for other purposes can be classified as leisure passengers and as people visiting friends and relative passengers (VFRs).

It is widely accepted in the industry that business travellers connected to large corporations are less sensitive to price than other passengers because travel costs are not relevant to their firms in comparison to other corporate costs. In parallel, these users do not bear their travel

costs, which are supported by their corporations. This characteristic of corporate business traveller's behaviour was detected in the early 1980s when frequent flyers programs were launched. These programs have rewarded the users and in compensation have charged higher prices to the corporations who pay the services. At the other end of the customers profile are the leisure and VFRs passengers for whom prices of air travels are relevant to their private budgets and, as a consequence, are sensitive to air fares levels. The difference of behaviour of the segments leisure and VFRs travellers are not related to their sensitiveness to price but to other aspects of their travels, such as destination, period of the year, time of stay at destination, etc. In the intermediate point of these range of customers are the travellers connected to medium or small firms or self-employed. For them, air fares relevance varies according to the economic benefit expected from each specific travel, which may vary in each trip. The experience and the practice of the airline industry in the last thirty years dispense more comments on these empirical evidences.

Although the proportion of these four segments in total demand may vary, some general rules may be formulated based on the author's experience, as follows.

- First, experience has shown that as the industry evolves to more mature stages passengers travelling not for business purposes tend to increase their predominance, achieving proportions above 85% (see Office for National Statistics' Statistical Bulletin -Overseas Travel and Tourism, December 2009).
- Second, the growing proportion of VFR travel probably reflects social changes toward the improvement of population wealth and better income distribution.
- Third, generally speaking, passengers seem to tend to have different purchase behaviour with relation to price and schedule sensitiveness, and purchase decision anticipation as demonstrated in the table below.

Segment (travel purpose)	Price sensitiveness	Schedule sensitiveness	Purchase decision anticipation
Leisure	High	Low	Big
Business – corporate travellers	Low	High	Small
Business – medium and small firms and self-employed	Moderate	Moderate	Small
VFR	High	Moderate	Big

Table 1. Passengers Purchase Behaviour by Segment

Not only final consumers may be considered as airlines' clients. Intermediates also can be classified as clients. Intermediates can be segmented into travel agents and tour operators.

Travel agents' bargaining power depends on the kind of air services being purchased.

Currently, the purchase process in short haul travel is very simple and specialized travel advisers do not add much value to clients. That is why in many countries commissions have not been paid to travel agents by the airlines for several years. In most cases commissions are charged to clients as a service fee.

In long haul travel the role played by travel agents is still relevant because of the complexity of these trips, their bargaining power being significant as a consequence. However, the growing importance of direct sales verified in many industries afforded by information technology progress is also verified in the airline business, tending to reduce the relevance of travel agents in the trading process.

On the other hand, tour operators still maintain their importance in leisure travel. Nevertheless, in many countries inclusive tour trips are a declining segment.

3.3 Substitute products

Up to recent years air transport had been more frequently a substitute to other transport means than the opposite. The decline of the bus transportation industry in the United States was clearly related to the arrival of the low cost carriers in that country. However, the inception of modern train services in Western Europe has played the opposite role. Nevertheless, it seems that this experience cannot be generalized to other parts of the world because travel distances are sometimes much bigger or capital availability for those investments is restricted.

3.4 New entrants threat

New entrants' threat is closely related to how high the barriers to entry are. Among these barriers, airport slots are the most relevant in the industry but capital requirements and operating complexity also play an important role.

Slots are time windows existing in airports in which landing and take-off operations are made. The International Air Transport Association (IATA) classifies the airports according to the capacity of the infra-structure of one specific airport vis-à-vis the corresponding demand. Thus, according to IATA, there are three levels of airports.

Briefly, a Level 1 airport is one where the capacity of the airport infrastructure is generally adequate to meet the demands of the airport users at all times. Succinctly, a Level 2 airport is one where there is potential for congestion during some periods of the day, week or season and the congestion conflicts may be solved by the cooperation among the airlines. These airports are named facilitated airports because they require the appointment of a "facilitator" with specific roles. Also in an abridged manner, "a Level 3 airport is where demand for airport

infrastructure significantly exceeds the airport's capacity during a relevant period and the expansion of airport infrastructure to meet demand is not possible in the short term" (IATA, Worldwide Slot Guidelines, 5th edition, 2013). Because it is very difficult to solve the conflicts raised by the limited infrastructure these airports are called coordinated and they require the appointment of a "coordinator" with formal delegation and with proper skill and experience in this function. In practice, obtaining slots in Level 3 airports is very difficult and depends on some other airlines' waiver.

Twice a year conferences between airports, airlines and slot coordinators (which are, in general, not for profit organizations) take place. In these conferences airlines' requests for the next seasons, Winter and Summer, are discussed. The retention and concession of new slots depend on clear rules related to the historical operating records of the airlines, although prestige, regularity and punctuality may influence decisions.

The huge air congestion in coordinated areas implies delays and lack of regularity is not tolerated and transgressions are punished by the imposition of severe fines or even the cancellation of specific operations.

In few words, slots are assets particularly essential and scarce at coordinated airports, being important potential constraints to airlines' expansion.

The existence of legal nationality property restrictions, government good will, capital requirements and operating complexity are also high entry barriers in the airline industry, especially in long haul operation. On the other hand, there are no important exit barriers in the industry because the main assets (aircraft) are very easily transferable, as pointed in IATA's publication Vision 2050 (2011). Actually, today aircrafts and aircraft engines and parts are a commodity and may be procured and negotiated by the Internet. In this manner, AIU–Airline Update.com (www.airlineupdate.com), a company specialized in providing commercial aviation directories since 2006, lists 64 different companies offering aircraft and engine finance & sales, with sizes that vary from very small companies to GE Capital Aviation Services (GECAS), "a global player in commercial aircraft leasing and financing, with over 1,670 owned and managed aircraft and over 230 customers in over 75 countries" (see www.gecas.com).

3.5 Competitors' rivalry

Rivalry among competitors in the airline industry has been frequently considered a paradox mostly because it is an intrinsically concentrated industry and, as a consequence, low rivalry intensity should be expected. The main reasons are high barriers to entry, the capital required and very specific know-how. However, there are stronger reasons influencing competition dynamics in the opposite direction, behind this apparent paradox. First, air transport demand

elasticity with relation to Gross Domestic Product is high, as it has been consistently demonstrated by periodical market analysis conducted by IATA (Airline Industry Forecast 2013-2017; IATA Outlook, published monthly, available in www.iata.org) and Boeing (Current Market Outlook, available in www.boeing.com), just to quote some important sources. According to the same publications the world average multiplier of the air transport demand on the GDP is on average around 1.5. This implies that air transport industry demand is, on average, significantly more sensitive to economic fluctuations than other industries. Second, the share of VFR traffic plus holiday travellers has increased consistently during the last years mainly in developed countries, turning demand each time more sensitive to pricing. Third, operating costs are unstable because they are highly impacted by fuel. Fourth, marginal costs are considerably small when compared to total operating costs, stimulating intense price wars. Fifth, seats supply cannot be stored forcing carriers to bring prices closer to marginal costs.

Experience has shown that forces tending to intensify rivalry among airlines have been largely predominant over those pressures pushing to a more peaceful companionship unlike other sectors. The traditional small profitability in the airline industry is much related with the aspects discussed above.

3.6 The Sixth Force: Alliances and Government

The airline industry offers a very good opportunity for the application of Nalebuff and Brandenburger's (1997) Value Net model. Actually, the role played by government in this industry and airline alliances fits perfectly the concept of "complementors" formulated by these authors. This subject is now explored in deeper detail.

Although the degree of governments' interference has declined considerably following deregulation, it continues to play an important role in some countries. Apart from the generic legislation applicable to most industries, governments impose specific constraints on the airline industry as a result of rules determined by international bilateral or multilateral air services agreements (ASAs), such as ownership control, freedoms of air and other constrained rules. In this specific case, governments are supposed to act as their national airlines' interest defenders, especially during the negotiations involving ASAs.

However, airlines are subject to a wide range of rules in the operating field, involving safety and security among others. Needless to say that the extension of governmental intervention varies from country to country, with the most developed country is experiencing less governmental influence.

Given that competition is intense in the airline industry, cooperative strategies, or alliances, play an important role as well. In fact, long haul airlines are especially dependent on alliances

developed with other airlines. This happens because a relevant proportion of passengers have origins at upstream points to specific embarking airports or has final destinations in downstream points to specific disembarking airports.

Alliances emerged in 1978 when the American market became deregulated. However, greater advances took place in the 1990s, when deregulation in Western Europe happened. In brief, alliances development, in general, and among airlines, in particular, corresponds to an effort by a group of firms to increase their competitiveness against other firms out of the group and to reduce the competition among the firms that belong to the same group.

Doganis (2000) pointed out that alliances among airlines may be of several types, as demonstrated in the table below:



Agreement	Alliance
Interline / Pro-rate	Commercial Alliance
Mutual ground handling	
Loyalty programs	
Code share	
Block space	
Common sales / Ticketing outlets	
Schedule / Capacity coordination	
Common engineering	
Common flights	
Franchising	Strategic Alliance
Common branding	
Common passenger and cargo services	
Total merging	

Table 2. Agreements and Corresponding Alliance Types (Source: Doganis, Rigas, The Airline Business in the 21st Century, Routledge, 2000)

4. General environment

General environment may be understood as being the external environment influencing indirectly a specific firm involving general aspects affecting more than one specific industry. It encompasses economic, demographic, political, legal, social, cultural, technological and natural aspects (Kotler & Keller, 2008).

As mentioned previously, GDP is one of the most important drivers of demand in the airline industry (Intervistas Consulting Inc, 2007; IATA, Airline Industry Forecast 2013-2017, 2013; IATA, IATA Outlook, 2013; Boeing, 2009; and Boeing, Current Market Outlook, 2013), a feature that has been repeatedly confirmed by econometric studies. For instance, Moreira (2013) developed an econometric model in which the dependent variable was the passengers-kilometres yearly transported in the Brazilian domestic market and the independent variables were the Brazilian GDP and the corresponding yields. This studied considered historical data from 1970 to 2013 and found the following regression equation:

- $\ln(Y) = 1.7558 \times \ln(X1) - 0.4815 \times \ln(X2) + 0.2336 \times \ln(X3) + 0.1144 \times \ln(X4) - 9.7061$, where:
 - Y – Passengers-kilometres early transported in the Brazilian domestic market,
 - X1 – Brazilian GDP in 2011 prices,
 - X2 – Yield per passenger-kilometre in 2011 prices,
 - X3 – A dummy variable reflecting the inception of GOL, a low cost carrier in Brazil,
 - X4 – A dummy variable introduced to improve the adjustment of the statistic model in 2013 (for forecasting purpose).

The statistical parameters found were $R^2 = 0.9899$ and $F = 958.46$. All independent variables were significant at 95% level.

As it may be observed the findings of Moreira (2013) –elasticities of demand to the GDP and to Yield equal to 1.7558 and – 0.4815, respectively- are especially consistent with the conclusions of the mentioned studies made for other parts of the world. Obviously, the relation between the air passengers demand growth rate and GDP growth rate varies from region to region, but always has been above 1. On the other hand, high statistical significance has been a common finding in most studies on the subject, confirming the statement that GDP impacts sharply on demand behaviour.

The figure below shows the estimated ratio of air transport demand growth and Gross Domestic Product growth for several regions around the world.

Growth measures		Asia Pacific	North America	Europe	Middle East	Latin America	R&CA*	Africa	World
World economy	(GDP) %	4.4	2.4	1.9	3.8	3.8	3.7	4.9	3.1
Airline traffic	(RPK) %	6.5	3.2	4.1	6.6	6.5	5.1	5.8	4.9
Cargo traffic	(RTK) %	6.2	4.6	4.8	6.3	6.3	5.3	5.4	5.4
Airplane fleet	%	5.4	1.8	3.0	4.1	4.1	1.3	2.8	3.2
Ratio	RPK / GDP	1.5	1.3	2.2	1.7	1.7	1.4	1.2	1.6

Table 3. Air Transport Demand and Economic Growth Expectations by World Regions (Source: Boeing Current Market Outlook 2009 to 2028)

Similarly, a population's geographic distribution affects intensely air transport demand, basically because other transportation means tend to be more competitive to air transport for short trips, below 400 kilometres, involving flights of around 50 minutes. For instance, large countries with a very spread population, as the United States tend to present a domestic air transport demand proportionally bigger than other similarly wealthy countries. An opposite example is given by Argentina, where around 40% of the country's population is concentrated in the Greater Buenos Aires area. As a consequence, domestic air transport demand in that country is proportionally smaller than one could expect considering its GDP.

A country's geographic location and its economic base influence significantly air transport demand, as is the case of Chile, a relatively developed country, with a small population, but having a large northbound demand for freight. The explanation for that is the intense exportation activity related to the fishing industry present in Chile.

Political aspects also influence the airline industry. Once again, Chile is a good example of this general environment's facet. Implementing radical neoliberal economic policies between 1973 and 1982, and less radical neoliberal economic policies between 1985 and 1989, the Chilean government implemented a very open air transport services agreement (ASA) with the United States, refusing to protect small Chilean carriers against the threat represented by the competition of foreign airlines. Besides, this lasting macroeconomic approach adopted by the Chilean Government shaped a generally positive attitude among local entrepreneurs toward the market economy, something that may be considered a Chilean people's cultural peculiarity.

Needless to say legislation also reflects cultural aspects of a specific society. Once again, Chile offers a good example for that because the country's legal apparatus is one of the most liberal concerning all economic activities, including air transport services.

However, legislation also reflects specific economic interests prevailing in specific social contexts. Brazil offers a good example in this field. Because its internal market is big, Brazilian authorities, including the aeronautical ones, have largely protected local companies from the threat of international competition. Obviously, this attitude has pros and cons and cannot be condemned per se.

Social aspects, such as social and economic disparity among the population, may impact

negatively air transport demand, reducing significantly the share of non-business motivated air travel. A consequence of this social feature is the small price elasticity verified in these social contexts. Another consequence of social disparity is the small penetration of Internet in society's lower tiers, limiting airlines' distribution means.

An example of how Internet penetration impacts an airline's distribution strategy is offered by Jet Blue which had to review one of its most solid axioms represented by the exclusive use of Internet for selling the airline's services. Actually, because Internet penetration is very small in the Dominican Republic, Jet Blue implemented in this country a traditional distribution system, supported by a partnership with Western Union, in which bookings are paid directly to the latter.

Purely cultural aspects also influence the airline industry such as the case of the resistance of American consumers to turbo props, in opposition to the European public, which has no important reservations as to flying in this kind of aircraft.

Technological constraints have a huge impact in airlines' strategy. For instance, in spite of Brazil having high performing airlines, as the ones studied in this thesis, the air space control in the country is still very poor, imposing severe limitations to infrastructure efficiency and reducing, as a consequence, the possibilities of fleet utilization.

Differently from Western Europe countries, preservation of the natural environment is not a key issue in many other countries, even the United States. As a consequence, airport expansion is much more related to economic aspects than environment protecting legislation. For instance, in the United States there is no curfew time and an airport's working time is determined by consumer behaviour not by legislation.

5. Generic Expansion strategies types

Expansion strategies may be classified according to the scope of the business involved, as follows: concentrated growth, vertical integration, horizontal integration or diversification. Expansion strategies may also be classified according to their process of implementation, which may be internal growth, mergers and acquisitions, or alliances. By combining the description of the existing airline business models made in the previous section and the expansion strategies types briefly reviewed below it is possible to create some guidelines for coherent expansion strategy types.

5.1 Concentrated growth

According to this expansion strategy, the firm decides to grow by concentrating its efforts on a single class of product, in a well-defined market and, if possible, using the same technology. The growth is obtained by increasing the number of users, the product utilisation or the frequency of use of this specific product. Four conditions favour the concentrated growth: the industry is not prone to relevant technological progress (e.g., industries in the later stages of maturity), target markets are not saturated, the market is sufficiently differentiated to inhibit new entrants, and basic supplies are available in quantity and at convenient prices (Kluyver & Pearce II, 2007). The concentrated growth corresponds to the strategy of firms with a single or dominant business.

Although the airline business does not fulfil totally the conditions enunciated by Kluyver and Pearce II (2007), concentrated growth has been the preferable expansion strategy adopted by its players. Probably, one reason is that the airlines' core competencies are so specific that they cannot be applied in other industries, due to the singularities of the business. For this reason, concentrated growth is a strategy that may make sense for all airline business models and has been the most widely used expansion strategy in the air transport industry.

However, concentrated growth just makes sense for an airline whose corresponding industry's five forces do not result in a very hostile environment, which seldom is the case. In general, rivalry among competitors is so intense that the other forces' influence prevailing in this particular context tends to be irrelevant. The reasons for such intense rivalry among competitors were commented in chapter I. The familiarity with government (the sixth force) reinforces the propensity for an airline to adopt concentrated growth as its expansion strategy.

Constraints in the general environment may influence an airline to withdraw from concentrated growth, the most natural expansion strategy. This is the case of Lan Chile which has developed a horizontal integration strategy by creating several subsidiaries in Latin America, aiming to overcome the narrowness of the Chilean market.

5.2 Vertical integration

Vertical integration is defined as the number of stages in an industry's supply chain that a firm brings within its boundaries (Barney & Hesterly, 2006). Vertical integration may be of two types: related and non-related vertical integration. A progressive vertical integration happens when a firm moves to supply chain stages closer to the final consumer. Regressive vertical integration corresponds to movement in the opposite direction.

Vertical integration aims to create value for the firm in at least the following ways:

- First, vertical integration may eliminate opportunistic threats from suppliers or buyers motivated by prospective gains in the short term. By obtaining high control on the supply chain, the firm improves its operating and financial stability.
- Second, vertical integration may give opportunity to the firm to exploit its core competencies, defined as the valuable, rare, costly-to-imitate and relevant to the business resources and capabilities (Hitt, Ireland & Hoskinson, 2007).
- Third, by better coordinating operations, vertical integration may be used to reduce intermediate stocks and reduce operating costs.

But, vertical integration has its inherent limitations: it just works under conditions of low uncertainty, once significant inflexibilities on the production processes are introduced. Besides, the risks associated with vertical integration may be extremely high because demand reductions at the end of the supply chain will impact the firm as a whole, with high potential losses.

A key disadvantage of vertical integration is that firms adopting this growth strategy are very exposed to risks associated with demand reductions at the end of the supply chain, as pointed out by Barney and Hesterly (2006).

Transportation of passengers and cargo by air is a very uncertain business. Some of the most important reasons are the high proportion of fixed costs, the high impact of oil on total costs, and, in general, the high demand elasticity with relation to the level of economic activity. Because air transport of passengers and cargo is a very uncertain business, strict vertical integration is an expansion strategy very seldom used in the industry. However, some isolated examples of vertical integration are present in the airline industry. This is the case of charter/inclusive tour airlines whose parent companies are tour operators.

Apart from that, there are some airlines that have a tour operator as a branch of the main business, TAM being an example. In these cases the evident intention is clearly to reduce the bargaining power of tour operators and this can create a marketing channel conflict. Nevertheless, it is possible to state that, generically, vertical integration may be a feasible strategy mainly for charter/inclusive tour airlines. On the other hand, charter/inclusive tour airlines, being specialized in a specific market segment require a huge and affluent market as an a priori condition for their existence.

5.3 Horizontal integration

This strategy corresponds to the expansion of the product lines offered by a firm in the same business. Internal development or acquisitions are both ways to implement horizontal integration processes.

The advantage of this kind of expansion process is that the firm enlarges the target market facing a minimum risk because the core competencies are assumed as being the expansion backbone. On the other hand, the risks of focusing firms' efforts in a single industry still remain, even though to a smaller degree, when compared with concentrated growth.

The risks inherent in horizontal integration are smaller than in concentrated growth and potential synergies are also smaller. Notwithstanding this, airlines have commonly implemented a horizontal integration strategy by acquisition aiming, basically, to avoid barriers to entry.

Examples of horizontal integration in the airline business are offered by LAN Chile, in creating subsidiaries in Argentina, Equator and Peru, and TACA in creating a subsidiary in Costa Rica. Basically, these airlines adopted a horizontal integration strategy to expand the target market, making sustainable growth feasible. Apart from that, horizontal integration seems to be an adequate strategy for all airline business models.

5.4 Diversification

In this expansion strategy, a firm decides to operate in a new industry. A diversification may be of two kinds: related diversification and non-related diversification. In the first case, the firm seeks for opportunities in industries with some degree of relationship with the one of the mother firm. These relationships involve, in general, aspects related to technology or distribution. The basic purpose of this kind of diversification is to use a firm's core competencies in order to minimize the risks of the new venture. In the second case, a firm's objective is to reduce the risks of concentrating its investments in a few sectors, which may be affected simultaneously by the same kind of external threat (e.g., basic supply scarcity). On the other hand, by choosing the latter strategy, the firm abandons the prospective of using its operating core competencies.

Hitt et al. (2007) classify diversification strategies relatedness in two groups: operational relatedness, which involves sharing activities between businesses, and corporate relatedness: implying skill transferences into businesses through the corporate headquarters. Related constrained diversification concerns the intensity of operational relatedness and related linked diversification concerns corporate relatedness.

Each diversification strategy type corresponds to different entrepreneurial purposes. Related constrained diversification aims to maximize market power, understood as being the bargaining power pursued by the firm on buyers or suppliers. Unrelated diversification seeks to obtain financial economies and risks minimization. Related linked diversification is addressed to maximizing the economies of scope. Finally, by developing both operational and corporate relatedness the firm achieves a rare capability, but incurring with it the risk to create scale diseconomies.

Diversification strategies are uncommon in the airline business, probably because the high investments required and the gains of scale inhibit companies to diversify toward other industries. However, the British Virgin Group is a relevant exception to this general rule. The Virgin Group is an example of related linked diversification because it operates successfully in several different businesses, such as media and communications, travel and tourism, leisure, retail, financial services, healthcare and social and environment.

There are no clear reasons to correlate the applicability of the diversification strategy with the airline business model chosen by a specific airline. On the contrary, SAS, United Airlines and Easy Jet indicate poor experience.

Having said that, it is reasonable to assume that diversification is not the preferable strategy for airlines in general, except in the case in which market size is a real constraint and the airline is not a promising business.

5.5 Internal growth

Internal growth is performed by sales growth, production capacity and the labour force. The advantage of internal growth is the better preservation of organisational culture, efficiency, quality and image. Nevertheless, there are inherent important disadvantages, including bureaucratic costs and lack of coordination (Wright, Kroll & Parnell, 1998). To this list one may include capital requirement, timing and higher risks, as compared to acquisitions. This expansion strategy is clearly the least risky one and has been indicated for businesses that are intrinsically very risky, such as the airline business. Because of that some successful airlines clearly and explicitly prefer internal growth. Among them American Airlines and South west are included.

A potential negative aspect of internal growth is timing because these processes tend to be slower than mergers and acquisitions and, this being so, emergent opportunities may be lost. Considering this aspect, internal growth may not be the first option for smaller airlines in which agility and quick movements are a potential advantage for large airlines.

It seems that internal growth is an expansion strategy applicable to all airline business models, depending neither on specific competition conditions existing in the industry nor on the general environment peculiarities.

5.6 Mergers and acquisitions

A merger occurs when two firms agree to integrate their operations on a relatively co-equal basis. An acquisition happens when one firm buys a controlling or 100% interest in another firm with the intent of making the acquired firm a subsidiary business within its portfolio (Hitt et al., 2007). A co-equal basis is rarely found in this type of firms association, and processes, indications and reasons are basically the same; however mergers and acquisitions often are treated under a common label, usually referred as to "M&A".

The same authors point out the following reasons for mergers and acquisitions: to increase market power, to overcome entry barriers, to increase speed to market, to increase diversification, to reshape the firm's competitive scope, to learn and develop new capabilities, and to correspond to lower costs and risks compared to new products development.

If there are advantages in mergers and acquisitions, there are problems associated to these processes. Again quoting Hitt et al. (2007), the main problems encountered are: integration difficulties, inadequate target evaluation, extraordinary debt, inability to achieve synergy, too much diversification, managers overly focused on acquisitions, and the resulting firm is too large. Mergers and acquisitions are a risky strategy because it combines both internal and external difficulties. Nevertheless it is a common strategy to overcome entry barriers or to obtain synergies.

Most airlines choose acquisition processes to obtain slots, airport infrastructure and traffic rights, so surpassing entry barriers. Besides, the identified difficulties are also found very frequently.

This is the case of Lufthansa in its expansion process by purchasing totally or partially several airlines, such as Swiss, Austrian Airlines, Brussels Airlines, BMI and Jet Blue. Besides, the Lufthansa Group made important acquisitions of firms related to airline industry support.

Taking into account the risks inherent with mergers and acquisitions, in general terms this strategy may be most frequently recommended for airlines that need to overcome high entry barriers or for smaller airlines that are threatened by a larger new entrant.

The attractiveness of a merger or acquisition strategy for an airline is highly related with some features of the general environment. In countries where the legal environment allow slots to

be an airline's quasi property, mergers and acquisitions may be used to overcome barriers to entry at congested airports.

On the other hand, in many countries labour legislation imposes heavy commitments on the acquiring firm in terms of assuming payroll related obligations or other liabilities related to the labour force. In these countries unions' activities tend to be intense, making a merger or acquisition a risky strategy.

These considerations may be extended to other legal aspects specific to the country where the merger or acquisition is taking place, such as the degree of transferability of liabilities from the previous firm to the new controlling firm, the anti-trust regulation, and so on.

5.7 Strategic Alliances

Strategic alliances are a firm's innovative response to radical changes that have occurred in the competitive environment in the XXI Century. Actually, this new environment is characterized by scarce resources, competition increasing, more clients' expectations, pressures from strong intermediates, unavoidable markets and competition internationalization, deeper and faster changes in markets and technologies, and unpredictable and turbulent markets (Hooley, Saunders, Piercy & Nicoulaud, 2008).

Strategic alliances are cooperative strategies, which may be of three kinds: joint ventures, equity strategic alliances and non-equity strategic alliances. A joint venture happens when two or more firms create an independent company by combining parts of their assets. An equity strategic alliance corresponds to partners who own different percentages of equity in a new venture. A non-equity strategic alliance involves contractual agreements given to a company to supply, produce, or distribute a firm's goods or services without equity sharing (Hitt et al., 2007).

Strategic alliances may play the role of facilitating expansion processes, especially in businesses where the competition has developed on a worldwide basis. But, other benefits often are brought by strategic alliances. First, they can improve the performance of current operations, by exploiting economies of scale, learning from competitors, and managing risks and sharing costs. Second, strategic alliances may create a favourable competitive environment by facilitating the development of technologies and tacit collusion. Third, entry and exit of businesses may become facilitated, by reducing entry and exit costs to new industries or markets, and by better managing the uncertainty (Barney & Hesterly, 2006).

However, strategic alliances also have their potential pitfalls. They are mostly related to the opportunistic behaviour of the partner firm, or to the intentional or unintentional partner's failure to accomplish its commitments.

Airlines pioneered strategic alliances long before they became popular in recent years, being evident since the 1930s. However, they gained strength in the 1990s, when the Star Alliance was created, in 1997, soon after followed by Sky Team and One World.

Currently it is very difficult for an airline operating long haul services not to belong to one of the three worldwide alliances mentioned above. The reason is that most of the long haul aircraft are wide-bodies, needing a huge demand to fill their seats. Besides, a very important proportion of passengers travel beyond national gates, needing local connections to achieve their final destination. In other words, long haul airlines need local partners in foreign countries.

On the other hand, frequent flyer programs have become essential marketing tools since the 1970s and the wider an airline's network is, the more attractive its loyalty plan is. That is why the core elements of airline partnerships are the integration of frequent flyers programs and code shared flights, the worldwide strategic alliance being the element that catalyzes the partnership.

Probably, long haul aircraft have to be larger because long trip passengers are less sensitive to schedule than short haul ones. This being so, airlines may concentrate a larger number of passengers on a single flight without losing significant attractiveness for the service. And, by doing that, unit costs of transportation are reduced allowing prices to be reduced as well.

So, the cycle of lower travellers' sensitiveness to schedule on long haul trips; larger long haul aircraft; need of local partnership; more attractive loyalty programs; and lower traveller's sensitiveness to schedule; is completed.

There is a clear correlation between the convenience for an airline to adopt a strategy based on alliances and its business model. For instance, low cost carriers tend to be stand-alone carriers, not having, in general, a frequent flyer program. This may be an important obstacle for a low cost airline to participate in a strategic alliance because most times shared frequent flyer programs a crucial aspect in the partnership. On the other hand, long haul legacy carriers depend much on local partnerships to distribute their passengers.

Legal environment plays an important role on the alliances construction, especially in countries where anti-trust regulations are very strict and demographic distribution plays an important role in airline strategic alliances. For instance, in countries where the population is very concentrated in the main city, such as is the case with Argentina, the importance of a local partner for a long haul legacy carrier to distribute its traffic is small. The opposite happens in Western European countries.

The participation in an alliance is an important tool to leverage a growth strategy due to the quickness and the relatively small amount of resources involved. Besides, entering into a

global alliance may eliminate the intrinsic competitive disadvantage of smaller airlines allowing them to obtain significant economies of scope.

However, local airlines with significant market power may give up from participating in a global alliance in their processes of expansion. The reason is that when an airline gets into an alliance it is almost mandatory for it to refrain from participating in bilateral alliances with carriers not participating in the same alliance.

6. The model combining airline business models, industry environment, general environment and generic expansion strategies

Putting together the groups of elements discussed above it is possible to create an analytical model to indicate the expansion strategies most compatible with each specific combination of elements.

As mentioned above, there are eight airline business models (Broad Network, Global, Short Haul / Medium Haul Independents, Long Haul Independents, All Premium / Business, Regional, Charter / Inclusive Tour and Low fare). On the other hand, there are six aspects of the industry environment to be considered (suppliers' bargaining power, buyer's bargaining power, substitute products threat, new entrants threat, competitors' rivalry and the sixth force: alliances and government). Finally, there are eight elements related to the general environment (economy, demography, politics, legal, social, culture, technology and natural environment). The model is shown in the figure below.

In order to create a score to help the growth strategy selection, each dimension of the industry environment is divided into two possibilities ("high" and "moderate or low"). Similarly, each dimension of the general environment is split into two possibilities ("favourable" and "unfavourable").

So, these three groups of elements are combined individually with possible growth strategies, which are classified by scope and growth process. Each combination is classified according to a generic value, receiving the designation "Y", if the combination makes sense; "N" if the combination doesn't make sense; or "I" if it is indifferent. Combinations between airline business models and growth strategies types (related to both scope of business involved and process of implementation) that made no sense (therefore receiving the designation "N") were eliminated. For instance, low fare carriers don't make alliances with other carriers or put in practice growth strategies involving diversification and, this being so, there is no reason to take these combinations into account. The table below summarises this discussion.

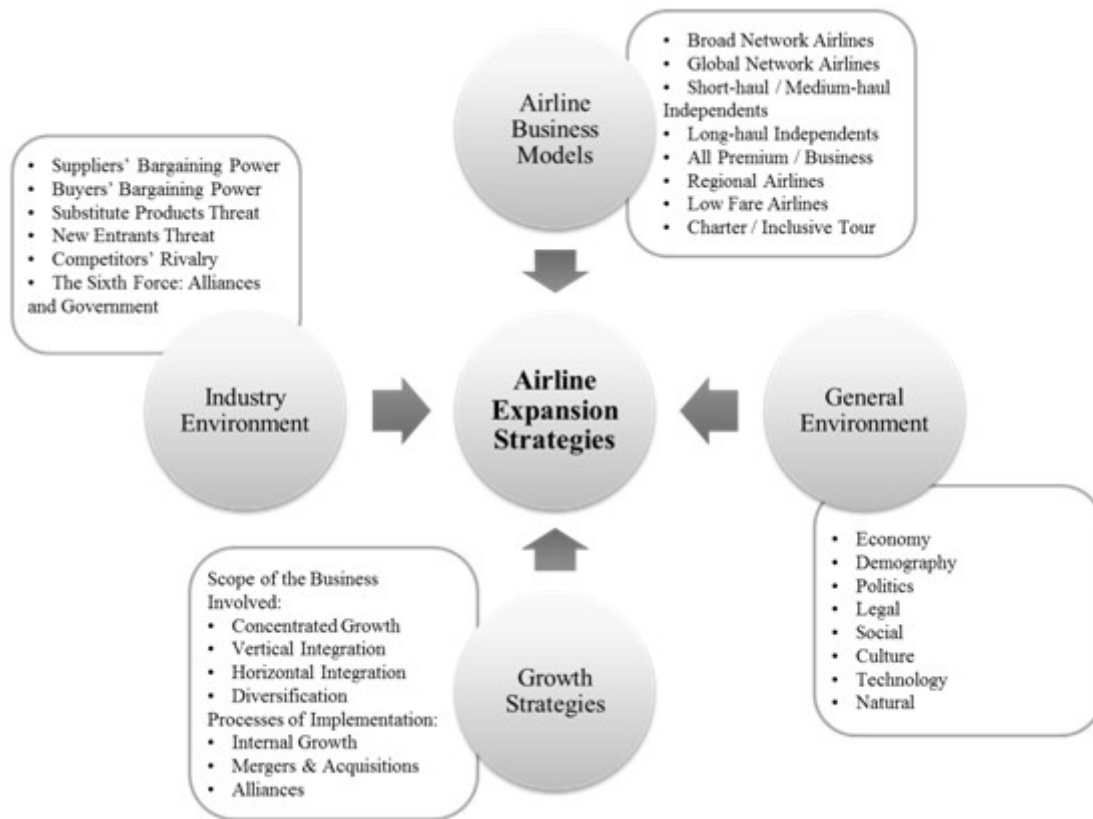


Figure 2. Airline Expansion Strategies Model

Airline Business Model	Scope of the Business Involved			
	Concentrated growth	Vertical integration	Horizontal integration	Diversification
Broad Network	Y	Y	Y	N
Global	Y	Y	Y	N
Short Haul / Medium Haul Independents	Y	Y	Y	N
Long Haul Independents	Y	Y	Y	N
All Premium / Business	Y	N	N	N
Regional	Y	N	Y	N
Charter / Inclusive Tour	Y	Y	Y	N
Low fare	Y	N	Y	N

Airline Business Model	Process of Implementation		
	Internal growth	Mergers and acquisitions	Alliances
Broad Network	Y	Y	Y
Global	Y	Y	Y
Short Haul / Medium Haul Independents	Y	Y	Y
Long Haul Independents	Y	Y	Y
All Premium / Business	Y	Y	N
Regional	Y	Y	Y
Charter / Inclusive Tour	Y	Y	N
Low fare	Y	Y	N

Table 4. Airline Business Models versus Growth Strategies Types

For the other combinations if the specific combination is assessed as Y, it receives a mark of 1; if it is assessed as "N", it receives a mark of -1; and if it is indifferent, it receives a mark of 0. By adding marks for each combination a score may be created, indicating how adequate this specific growth strategy is to the airline business model, industry environment and general environment.

Industry environment in airline business	Scope of the Business Involved			
	Concentrated growth	Vertical integration	Horizontal integration	Diversification
Suppliers' bargaining power				
High	N	Y	I	Y
Moderate or Low	I	I	I	I
Buyer's bargaining power				
High	N	Y	I	Y
Moderate or Low	I	I	I	I
Substitute products threat				
High	N	Y	I	Y
Moderate or Low	I	I	I	I
New entrants threat				
High	Y	Y	Y	I
Moderate or Low	I	I	I	I
Competitors' rivalry				
High	Y	Y	Y	Y
Moderate or Low	I	I	I	I
The Sixth Force: Alliances and Government				
Important	I	I	I	I
Not important	I	I	I	I

Industry environment in airline business	Process of Implementation		
	Internal growth	Mergers and acquisitions	Alliances
Suppliers' bargaining power			
High	N	I	Y
Moderate or Low	I	I	I
Buyer's bargaining power			
High	N	I	Y
Moderate or Low	I	I	I
Substitute products threat			
High	N	I	Y
Moderate or Low	I	I	I
New entrants threat			
High	N	I	Y
Moderate or Low	I	I	I
Competitors' rivalry			
High	I	Y	Y
Moderate or Low	I	I	I
The Sixth Force: Alliances and Government			
Important	I	I	Y
Not important	I	I	I

Table 5. Industry's Six Forces versus Growth Strategies Types

On the other hand, it is reasonable to assume that the elements of the general environment and the elements of the industry environment have not a uniform impact on the selection of a growth strategy. In order to deal with this aspect, the model admits the introduction of weights that may give more relevance to one or more aspects of the general environment and the

industry environment. For instance, probably the element "Economy" and the element "Competitors' Rivalry" are more relevant than the other elements and as a consequence they should receive a higher weight.

General environment aspects		Scope of the Business Involved			
		Concentrated growth	Vertical integration	Horizontal integration	Diversification
Economy	Favorable	Y	Y	Y	Y
	Unfavorable	N	N	I	Y
Demography	Favorable	Y	Y	Y	Y
	Unfavorable	N	I	Y	Y
Politics	Favorable	Y	Y	Y	Y
	Unfavorable	N	N	I	Y
Legal	Favorable	Y	Y	Y	Y
	Unfavorable	N	N	I	Y
Social	Favorable	Y	Y	Y	Y
	Unfavorable	N	N	I	Y
Culture	Favorable	Y	Y	Y	Y
	Unfavorable	N	N	I	Y
Technology	Favorable	Y	Y	Y	Y
	Unfavorable	N	N	I	Y
Natural	Favorable	Y	Y	Y	Y
	Unfavorable	N	N	N	Y

General environment aspects		Process of Implementation		
		Internal growth	Mergers and acquisitions	Alliances
Economy	Favorable	Y	Y	I
	Unfavorable	I	Y	Y
Demography	Favorable	Y	Y	Y
	Unfavorable	I	Y	Y
Politics	Favorable	Y	Y	Y
	Unfavorable	N	N	I
Legal	Favorable	Y	Y	Y
	Unfavorable	N	N	I
Social	Favorable	Y	Y	Y
	Unfavorable	N	N	I
Culture	Favorable	Y	Y	Y
	Unfavorable	N	N	I
Technology	Favorable	Y	Y	Y
	Unfavorable	N	I	I
Natural	Favorable	Y	Y	Y
	Unfavorable	N	N	I

Table 6. General Environment Aspects versus Growth Strategies Types

Airline Business Model	Scope of the Business Involved	Process of Implementation	Industry Environment in airline business						
			Suppliers' Remaining Power	Buyers' Remaining Power	Substitute Products Threat	New Entrants Threat	Competitors' Rivalry	Alliances and Government	
Broad Network	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Global	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Short Haul / Medium Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Long Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Broad Network	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Broad Network	Vertical Integration	Alliances	High	High	High	High	High	High	Not Important
Global	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Global	Vertical Integration	Alliances	High	High	High	High	High	High	Not Important
Short Haul / Medium Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Short Haul / Medium Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Not Important
Long Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Long Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Not Important
Broad Network	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Broad Network	Vertical Integration	Alliances	High	High	High	High	High	High	Not Important
Global	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Global	Vertical Integration	Alliances	High	High	High	High	High	High	Not Important
Short Haul / Medium Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Short Haul / Medium Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Not Important
Long Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Important
Long Haul Independents	Vertical Integration	Alliances	High	High	High	High	High	High	Not Important
Regional	Horizontal Integration	Alliances	High	High	High	High	High	High	Important
Regional	Horizontal Integration	Alliances	High	High	High	High	High	High	Important
Regional	Horizontal Integration	Alliances	High	High	High	High	High	High	Important
Regional	Horizontal Integration	Alliances	High	High	High	High	High	High	Important
Charter / Inclusive Tour	Vertical Integration	Mergers and acquisitions	High	High	High	High	High	High	Important
Charter / Inclusive Tour	Vertical Integration	Mergers and acquisitions	High	High	High	High	High	High	Not Important
Regional	Horizontal Integration	Alliances	High	High	High	High	High	High	Not Important
Charter / Inclusive Tour	Vertical Integration	Mergers and acquisitions	High	High	High	High	High	High	Important
Charter / Inclusive Tour	Vertical Integration	Mergers and acquisitions	High	High	High	High	High	High	Not Important
Charter / Inclusive Tour	Vertical Integration	Mergers and acquisitions	High	High	High	High	Moderate or Low	High	Important
All Premium / Business	Concentrated Growth	Mergers and acquisitions	Moderate or Low	Moderate or Low	Moderate or Low	Moderate or Low	High	High	Important
All Premium / Business	Concentrated Growth	Mergers and acquisitions	Moderate or Low	Moderate or Low	Moderate or Low	Moderate or Low	High	High	Not Important
Low Fare	Concentrated Growth	Mergers and acquisitions	Moderate or Low	Moderate or Low	Moderate or Low	Moderate or Low	High	High	Important
Low Fare	Concentrated Growth	Mergers and acquisitions	Moderate or Low	Moderate or Low	Moderate or Low	Moderate or Low	High	High	Important
Low Fare	Horizontal Integration	Mergers and acquisitions	High	High	High	High	High	High	Important
Low Fare	Horizontal Integration	Mergers and acquisitions	High	High	High	High	High	High	Important
Low Fare	Horizontal Integration	Mergers and acquisitions	High	High	High	High	High	High	Important
Low Fare	Horizontal Integration	Mergers and acquisitions	High	High	High	High	High	High	Not Important
All Premium / Business	Concentrated Growth	Mergers and acquisitions	High	Moderate or Low	Moderate or Low	Moderate or Low	High	High	Important
All Premium / Business	Concentrated Growth	Mergers and acquisitions	High	Moderate or Low	Moderate or Low	Moderate or Low	High	High	Not Important
All Premium / Business	Concentrated Growth	Mergers and acquisitions	Moderate or Low	High	Moderate or Low	Moderate or Low	High	High	Important

Scope of Business Involved	Frequency	Participation
Concentrated Growth	7	18%
Vertical Integration	25	63%
Horizontal Integration	8	20%
Diversification	0	0%
		100%
Process of Implementation		
Internal Growth	0	0%
Mergers and acquisitions	15	38%
Alliances	25	63%
		100%

Table 7. Best ranked scored combinations

The total number of combinations generated was 904,736. This value is the result of the multiplication of 8 (number of airline business models considered), by 4 (number of growth strategies types according to the scope of business involved), by 3 (number of growth strategies types according to the process of implementation), by 2 powered to 6 (6 industry forces each one corresponding each to 2 possibilities – high versus moderate and low), by 2 powered to 8 (8 general environment aspects each one corresponding to two possibilities – favourable versus unfavourable), which results 1.572.864, minus 668,128, which is the number of combinations of airline business models with growth strategies types that do not make sense.

The following tables were built using the weight 2 for the elements "Competitor's Rivalry" (Industry Environment) and "Economy" (General Environment), supposing that both have the highest impact on the growth strategy chosen. Under these suppositions the forty best and the forty worst ranked scored combinations were selected as tables 7 and 8 show.

An application of the model can be demonstrated as follows. For instance, consider a global airline operating in an industry environment in which there is a high competitor's rivalry as well

as moderate or low both suppliers' and buyers' bargaining power, and substitute products and new entrants' threats are also small. Besides, the Alliance and Government aspects are supposed as being important. Also consider that the corresponding general environment is favourable in all of its aspects (Economy, Demography, Politics, Legal, Social, Culture, Technological and Nature) except Economy, which is very unfavourable. Table 9 shows the corresponding growth strategies score.

Airline Business Model	Scope of the Business Involved	Process of Implementation	Industry Environment in airline business					
			Suppliers' Bargaining Power	Buyers' Bargaining Power	Substitute Products Threat	New Entrants Threat	Competitors' Rivalry	Alliances and Government
All Premium / Business	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Important
All Premium / Business	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Not Important
All Premium / Business	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Important
All Premium / Business	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Not Important
Broad Network	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Important
Broad Network	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Not Important
Broad Network	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Important
Broad Network	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Not Important
Charter / Inclusive Tour	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Important
Charter / Inclusive Tour	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Not Important
Charter / Inclusive Tour	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Important
Charter / Inclusive Tour	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Not Important
Global	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Important
Global	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Not Important
Global	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Important
Global	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Not Important
Long Haul Independents	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Important
Long Haul Independents	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Not Important
Long Haul Independents	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Important
Long Haul Independents	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Not Important
Low Fare	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Important
Low Fare	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Not Important
Low Fare	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Important
Low Fare	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Not Important
Regional	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Important
Regional	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Not Important
Regional	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Important
Regional	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Not Important
Short Haul / Medium Haul Independents	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Important
Short Haul / Medium Haul Independents	Concentrated Growth	Internal Growth	High	High	High	High	Moderate or Low	Not Important
Short Haul / Medium Haul Independents	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Important
Short Haul / Medium Haul Independents	Concentrated Growth	Internal Growth	High	High	High	Moderate or Low	Moderate or Low	Not Important
All Premium / Business	Concentrated Growth	Internal Growth	High	High	High	High	High	Important
Broad Network	Concentrated Growth	Internal Growth	High	High	High	High	High	Important
Charter / Inclusive Tour	Concentrated Growth	Internal Growth	High	High	High	High	High	Important
Global	Concentrated Growth	Internal Growth	High	High	High	High	High	Important
Long Haul Independents	Concentrated Growth	Internal Growth	High	High	High	High	High	Important
Low Fare	Concentrated Growth	Internal Growth	High	High	High	High	High	Important
Regional	Concentrated Growth	Internal Growth	High	High	High	High	High	Important
Short Haul / Medium Haul Independents	Concentrated Growth	Internal Growth	High	High	High	High	High	Important

Scope of Business Involved	Frequency	Participation
Concentrated Growth	40	100%
Vertical Integration	0	0%
Horizontal Integration	0	0%
Diversification	0	0%
		100%
Process of Implementation		
Internal Growth	40	100%
Mergers and acquisitions	0	0%
Alliances	0	0%
		100%

Table 8. Worst ranked scored combinations

Airline Business Model	Scope of the Business Involved	Process of Implementation	Industry Environment in airline business					
			Suppliers' Bargaining Power	Buyers' Bargaining Power	Substitute Products Threat	New entrants Threat	Competitors' Rivalry	Alliances and Government
Global	Horizontal Integration	Alliances	Moderate or low	Moderate or Low	Moderate or Low	Moderate or Low	High	Important
Global	Horizontal Integration	Mergers and acquisitions	Moderate or low	Moderate or Low	Moderate or Low	Moderate or Low	High	Important
Global	Concentrated Growth	Alliances	Moderate or low	Moderate or Low	Moderate or Low	Moderate or Low	High	Important
Global	Vertical Integration	Alliances	Moderate or low	Moderate or Low	Moderate or Low	Moderate or Low	High	Important
Global	Concentrated Growth	Mergers and acquisitions	Moderate or low	Moderate or Low	Moderate or Low	Moderate or Low	High	Important
Global	Vertical Integration	Mergers and acquisitions	Moderate or low	Moderate or Low	Moderate or Low	Moderate or Low	High	Important
Global	Horizontal Integration	Internal Growth	Moderate or low	Moderate or Low	Moderate or Low	Moderate or Low	High	Important
Global	Concentrated Growth	Internal Growth	Moderate or low	Moderate or Low	Moderate or Low	Moderate or Low	High	Important
Global	Vertical Integration	Internal Growth	Moderate or low	Moderate or Low	Moderate or Low	Moderate or Low	High	Important

Airline Business Model	Scope of the Business Involved	Process of Implementation	General environment aspects									
			Economy	Demography	Politics	Legal	Social	Culture	Technology	Natural	Score	
Global	Horizontal Integration	Alliances	Unfavourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	21
Global	Horizontal Integration	Mergers and acquisitions	Unfavourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	20
Global	Concentrated Growth	Alliances	Unfavourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	19
Global	Vertical Integration	Alliances	Unfavourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	19
Global	Concentrated Growth	Mergers and acquisitions	Unfavourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	18
Global	Vertical Integration	Mergers and acquisitions	Unfavourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	18
Global	Horizontal Integration	Internal Growth	Unfavourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	16
Global	Concentrated Growth	Internal Growth	Unfavourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	14
Global	Vertical Integration	Internal Growth	Unfavourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	Favourable	14

Table 9. Example of application of the model for a global airline

7. Conclusions

In this paper a conceptual model for the assessment of airline expansion strategies was developed combining four groups of elements: business model of the airline under consideration, industry environment, general environment and expansion strategies types, the later ones classified according to the strategic scope and the implementation process. It was made a theoretical development on each of these four groups of elements vis-à-vis airline industry and general environment ingredients was made in order to test the consistency of the model.

The model outputs are scores that are associated to each of the 904,736 possible combinations. The higher score, the more consistent the growth strategy is. The scores were created giving value "1" to each combination that "makes sense" and "0" to each combination that does not "make sense". Additionally, each element was weighted to reflect their relative importance, receiving weight "2" the elements "Competitors' Rivalry" (industry environment) and "Economy" (general environment) and receiving "weigh" "1" all other elements.

The highest score found was 29 and the smallest was -21. Curiously, two thirds of the best ranked strategies involved vertical integration and alliances and all of the worst ranked strategies involved concentrated growth and internal growth. This is an indication that in most cases vertical integration and alliances are the growth strategies with a greater probability of success. Conversely, concentrated growth and internal growth are the strategies with greater probability of failure. On the other hand, it is visible that there is no correlation between the airline business type and the score found, as tables 7 and 8 show.

The hypothetical application presented in table 9 shows that the model is easy to manipulate and it is useful to identify the most consistent generic growth strategies applicable to this

specific case. Therefore, the model can be used to assess the consistency of growth strategies put in practice by airlines operating in different contexts.

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