
ENTREPRENEURSHIP IN THE BRAZILIAN AIR TRANSPORTATION MARKET: THE CASE OF LNA TAXI AEREO

**Gilmar Masiero (UEM)
Lilian Notini de Almeida**

Abstract

Entrepreneurship has been the focus of attention of many scholars and officials in the developed as well as in the developing countries. Most of the literature considers the difficulties and the successes in the industrial sector of the economy but few concentrates in the service sector, especially in the air transportation market. This market is growing faster than others not only because of the deregulation measures of the 80s and 90s but also for the increasing competition in the regional markets in the so-called emerging countries. In this context, entrepreneurship in the Brazilian transportation air market is considered in the first part of the article. The second part deals with some of the most popular myths of the aviation sector and the third one considers the experience of small air company – LNA Taxi Aereo - in dealing with not only the conservative and bureaucratic Brazilian regulation agencies but also with an unstable macroeconomic environment. The main goal of the paper is to reemphasize that just under clear, fair and stable economic behavior the potential of the Brazilian entrepreneurs will be able to initiate, nurture and expand their businesses overtime.

Entrepreneurship in the Brazilian air transportation market.

The world economy has been changing quickly. The scenario in the beginning of XXI century requires competitive and nimble companies. These companies, in order to rationalize their costs and be ready for ferocious competition, have been doing mergers, alliances and joint ventures in several industries worldwide. Moreover, international companies have several mechanisms to trade worldwide, which permits them to balance their earnings with some kind of hedge. Furthermore, being inserted in a global world exposes them to diverse trends, which contributes to level the playing field because the losses they face in some places can be compensated by profits in others.

Unfortunately, the study of these industries cannot predict their outcomes because the events are occurring in an era where practical approaches have been challenging so many theoretical models. For example, the technology sector in the US, precisely in the Internet industry, where the value of the companies was irrationally measured by the guesstimate of

what they would generate in profits in a virtual future. Businesses were transforming each day quickly, far away from reality, but no later it culminated in a crisis that extended to companies in neighboring industries, such as telecommunications. This contaminates other sectors and the results are not still now completely accounted, which caused people to rethink some concepts in the most powerful economy in the world.

Nowadays, the market is returning to a similar pattern of two or three years before the so-called dot.com crisis, free from the euphoria of revolutionary and most of the time illusionary companies. Indeed, e-businesses such as Amazon.com and Yahoo.com, among others, continue to operate, but in less aggressive rhythm. Although the negative impact caused on the US economy and media is still concrete, most companies have already reverted the situation through the government support in its policies to cut tax and to lower interest rate. This also helps to enhance smaller businesses that, as in a sequence, were affected as well.

But, as unemployment deteriorated due to the crisis, issues like promoting entrepreneurship once again became the focus of attention of policy makers and the academic world. Emphasizing its importance not only in the specific dot.com sector but also in the rest of the economy became consensual because the bigger the range, the stronger the impact on both job generation and growth. If this is true in developed economies like in that of the US, what can be thought about businesses in unstable social, economic and political contexts of the developing countries like Brazil?

The pattern seems to be the same: failures in some projections, contamination of other sectors, unemployment deterioration and adoption of new policies to control the situation. However, the issue of promoting entrepreneurship does not arise, as suggested or expected. Entrepreneurship in Latin American countries, as in Brazil, is in its first stages of development because most, or even all, of the emerging countries do not have adequate conditions for entrepreneurs to initiate, nurture and expand their business overtime. Macroeconomic imbalances and the absence of the rules of the game as well as a vision and a clear strategy of national development let the Latin American countries searching for their “lost decade” since the debt crisis of the beginning of 80’s.¹

The Latin American economies have been suffering huge difficulties since the debt crisis. Most economies had hyperinflation and the real situation of companies was difficult to be measured because prices changed almost every day. Then, some countries started to impose plans to combat hyperinflation, but after some relief for several months, the situation turned back into the previous one, or sometimes, worse than that, due to the lack of other strong policies to support the plans. So, it took time to win some battles, to start reforms in sectors where government did not have enough resources to maintain investments and to implement plans to cut inflation dramatically.

In some countries, plans were effective, but they demanded that regulators continue the reforms to support the economy. Without reforms, the money attracted, as foreign direct investments, had not been able to recover the economies and make them more dynamic. Some important restructuring happened with the privatization of several utilities and services. However, domestic and external debt continued to increase exponentially because interest rates remained high to attract investors and both growth and foreign direct investment have not been enough to compensate the government expenditure and debt payment. On one hand,

to overcome the financial constraints, the government has to have tax revenue, so it increases the percent of taxation. On the other, it inhibits new start-ups and it incentives tax holidays.

In addition, because of the volatility of the stock markets and the vulnerability of emerging countries combined with advances in technology, money travels faster than light and contaminates each place it passes. The immediate consequence is that crises in other economies, even if they occurred in completely different regimes, affect the stability of other countries' economies and provoke fears in investors, who decrease investments, which in turn causes money scarcity and currency devaluation. The greater the instability in the country, the stronger the damages suffered. This is clearly stated in a report of the Research Department of the Inter-American Development Bank that says "despite the great advances Latin America has made in controlling inflation and achieving exchange rates stability, price increases and exchange rate adjustments are serious problems for businesses".ⁱⁱ

The same report considers that in Latin America as in other regions, smaller firms suffer the most from financing problems. The differences in the severity of the problem among countries, and even among regions of the world, are much greater than the differences among firms of varying sizes within each country. This leaves the researchers of the bank to suggest that, "especially in less financially developed countries, the policy emphasis should be on the macro and institutional factors that affect the financial sector as a whole, more than on the variables that affect firm's differential access to credit".ⁱⁱⁱ

Entrepreneurship is strongly related to small and middle companies that should overcome economic imbalances and financial crises. As a matter of fact, it is important to study the different ways that entrepreneurship is helping developed nations to continue the expansion of their economy. The National Commission on Entrepreneurship^{iv} states that "small entrepreneurs account for more than two out of three innovations since World War I", and that "95% of all radical innovations are attributable to small businesses". Even though there is not a great amount of research or track records about this subject, Amar Bidhe, cited in the *Five myths about entrepreneurs*,^v emphasizes that "the economic and societal reasons for the prominence of entrepreneurship are clear. In the United States, about 600,000-800,000 new businesses are started each year. Most succeed and although many fail, these small businesses are the foundation for our employment growth. However, some entrepreneurs are not satisfied and want to go beyond the American dream of owning their businesses. They take big personal and financial risks to grow new kinds of businesses at a rapid rate. This smaller group has created the new products, new companies and new industries that have led in large part to this period of growth".

The small and medium enterprise' sector of the economy is crucial to increase government tax revenues, generate new jobs, increase workers' acquisitive power, etc. Economic policies play an important rule in the growing process of an economy as well as in that of the companies. Not surprisingly, they are the ones intimately related to any other area of activities in a cycle or in a cause-and-effect pattern. This means that, contrary to those economic policies applied in stable economies, where some exclusive events cause disturbances only in their periphery, events in developing countries may spread over several areas and cause damage everywhere. If appropriate, they can help the developing countries to perform better than the developed ones.

The political models in Latin American countries as well as in Brazil, although nowadays in a democracy, is not able to extinguish old-fashioned practices of self-profiteering

and self-interest. It has a historic background of corruption and pork barrel practices in the government sphere. According to Ricardo Hausmann, former Inter-American Development Bank (IDB) economist, “Brazilian political situation is complex because the country has a weak president in front of the Congress and a weak Congress in front of the state governments. It has a very fractious political system, with no party system, but with numerous parties where there are zero loyalties between the politics and the parties and a lot of political volatility.”^{vi}

Indeed, this weakness prevent politicians from take a firm commitments towards controversial issues, such as the reform of the security system, the privatization of some sectors and the fiscal deficits in the federal and state levels. It also disturbs legislation in benefit of the poor people in areas where the improvements are barely visible to voters. This political mess creates disturbances in the economy and political discredit in the society. Lack of political transparency and commitment in Latin American countries tends to weaken entrepreneurial ventures while public policy has played an instrumental role in supporting entrepreneurship in the United States and other developed countries.

Although Latin American governments have instituted good policies to revert unstable economy, they were not enough to make the small and medium enterprise’ sector more dynamic. The education system, fundamental to entrepreneurship, is still inadequate. Hausmann classified it as one of the biggest problem in Brazil. He states that “all the other things are smaller compared to the education problem; this is big. Paulo Renato, Brazilian Education Minister, has thought everything there is to think and he has done a lot of things, but there is not a quick solution. I remember reading a paper by Renato Paes de Barros that reports the numbers of students engaged in primary education was higher, secondary education was lower, and terceary education was higher. Brazil has a group of people starting only primary and dropping off and a group of people going through all the way into the university. However, few people are in between, which probably is changing now. What is keeping Brazilian education so low is that it has the majority of people in the extremes, but it doesn’t have much in the middle.”^{vii}

Sharing this point of view, Debora Spar, a political scientist who teaches at Harvard Business School, argued that if the country wants to promote entrepreneurship, Brazilian people have to get access to education: “last time I looked at Brazil’s figures, education was pretty bad. Not equally across the country, but in a lot of parts, people are not getting educated. I am not talking about Ph.D’s education, which the situation is pretty good in Brazil, but getting people basic numerate and literate skills. Even in basic industrial plants, which are low-scale automated, people need to work in projects and be able to read and figure out just basic addition and subtraction skills. And these are not there. It is hard to get those and it is hard to get investment.” Going strictly to the entrepreneurship topic, Spar strengthened her point: “maybe people can argue that Brazilians are entrepreneurial by nature, but they need a certain amount of sophistication to turn an entrepreneurial urge into business, even in small-scale business.”^{viii}

According to the Global Entrepreneurship Monitor 2000 Executive Report – GEM - by Paul D. Reynolds, Michael Hay, William D. Bygrave, S. Michael Camp and Erkko Autio^{ix}, “if access to post-secondary educational opportunities were the only factor used to predict entrepreneurial activity, it would account for 40 percent of the cross-national variation. Investment in education, while it may take time to pay dividends, clearly has a major impact on entrepreneurship. It ensures an ongoing supply of people creating new ideas, technology,

and knowledge — broadly defined — which leads to new business opportunities; capable of successfully launching entrepreneurial firms; or as a potential talent pool for new and growing companies.”^x

The definition of entrepreneurship in this report - “any attempt to create a new business enterprise or to expand an existing business by an individual, a team of individuals, or a established business” - can be easily criticized because it is so encompassing that any economic activity can be considered entrepreneurship. The three fundamental questions implicit in the project: Does the level of entrepreneurial activity vary between countries and, if so, to what extent? Does the level of entrepreneurship activity affect a country's rate of economic growth and prosperity? What makes a country entrepreneurial? can also be challenged by the economic literature that for long has been reporting indexes of GNP of countries or other industrial sector analyses.

An interesting and one of the most important research questions: “how can a country be entrepreneurial” instead of “what makes” was not considered in this study. And, even though the educational levels of Brazilians are worse than those of other countries in the same range of percapita income, the GEM 2000 report classified Brazil as the most entrepreneurial country out of 21 countries researched: “in Brazil, 1 in every 8 adults is currently starting a business. This compares with 1 in 10 in the United States, 1 in 12 in Australia, 1 in 25 in Germany, 1 in 33 in the United Kingdom, 1 in 50 in Finland and Sweden, and 1 in 100 in Ireland and Japan”.^{xi}

At a glance, everything needs to be thrown away. Indeed, the conclusions of this study is a robust support for the general idea described before that the lack of adequate context to initiate, nurture and expand entrepreneurship is the main problem of the entrepreneurial activity in Latin America and Brazil. Again, it is not contradictory but perfectly comprehensible at least for those who have been experiencing this “adventure” in Brazil. A plausible look at the affirmative: “probably Brazilians are entrepreneurial by nature”, certainly needs to be accompanied by the adequate conditions for entrepreneurs to initiate, nurture and expand their business overtime.

The GEM 2000 entrepreneurship study shows clearly that none of the conclusions is present in Latin American countries. The main conclusions of the study are: a) Entrepreneurship is strongly associated with growth; b) Financial support is highly associated with the level of entrepreneurial activity; and c) Education plays a vital role in entrepreneurship. As an overall consensus, the study confirms that opportunities alone do not result in entrepreneurship. Individuals need to feel motivated to take advantage of opportunity. The extent to which they do will reflect their belief that being an entrepreneur, irrespective of whether one is successful or not, is socially valued. The conviction that success will not be resented or failure stigmatized is fundamental. GEM 2000 used a variety of measures to assess the perception of social legitimacy of entrepreneurship. What emerged was a striking difference between countries with high levels of entrepreneurial activity and those with considerably less activity. This highlights the pivotal importance of creating a strong culture of entrepreneurship that embodies norms and values that are supportive of entrepreneurs.^{xii}

This strong culture that embodies norms seems to be present in the two laws still to be approved in the Brazilian Congress related to the air transportation market. One of them is about the creation of the new Civil Aviation National Agency – ANAC - to regulate the air

market, which is expected to deregulate this sector, still run by the military. The actual agency – DAC - controls the airfares, routes' concession, airport landing taxation and facilities through Infraero, aviation schools, pilots' licenses, etc. Moreover, it is supposed to give a more agile framework to the system, without losing Brazilian reputable safety and operational procedures.

The other one is the Brazilian Air Code – CBA, which is in review to adequate the terms of the Brazilian old legislation to today's reality. One controversial issue is to what percentage the law will permit international companies to buy shares of the Brazilian aviation companies. It is very important to the air market and the entrepreneurial activity in general to have these laws approved because a lot of inefficiencies and high costs are still present in the strongly regulated Brazilian air transportation market.

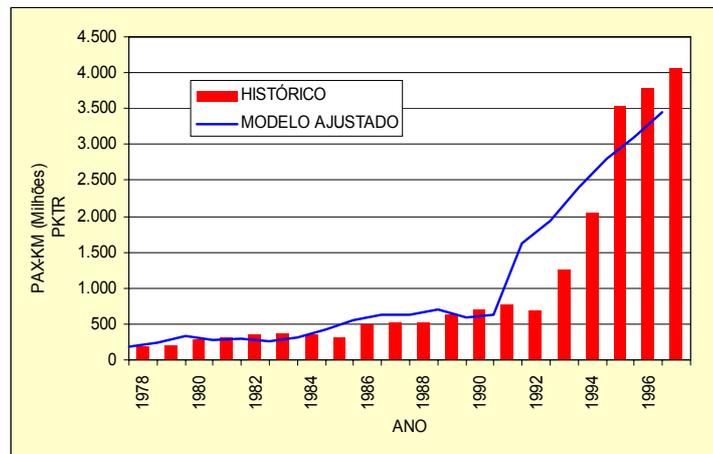
The Brazilian air transportation market is composed primarily of four major big companies – VARIG, TAM, VASP, TRANSBRASIL. Except for VASP that stopped to operate international lines in October 2000, they operate in both domestic and international market. The economic contingency that involves Brazil since the implementation of the Real Plan is clearly visible also in these companies' records. After the implementation of Real, when the dollar was undervalued, there was an increased demand for international flights whereas after the Real devaluation in 1999, there was a considerably declined in the passengers transported. As an opposite trend in the internal market, as shown in chart bellow, there has been an increasing demand.

EMPRESAS	1996	1997	1998	1999	2000
VARIG	6,747,559	6,792,944	7,628,258	6,973,545	7,609,088
MERIDIONAIS		491,964	1,707,552	1,974,687	3,680,574
VASP	2,811,136	3,127,475	3,884,290	3,331,807	3,635,828
TRANSBRASIL	2,973,016	3,019,379	3,367,692	3,288,684	2,812,461
-	-	-	-	-	-
TAM	2,279,926	2,257,777	2,442,279	2,802,395	2,911,258
RIO SUL	1,163,135	1,279,902	1,844,867	2,041,767	2,261,729
NORDESTE	227,577	361,292	549,830	627,222	844,436
INTERBRASIL	30,791	51,613	63,521	152,209	145,400
PENTA	16,927	60,502	133,288	133,832	95,240
PANTANAL	85,131	78,646	76,904	59,671	80,605
RICO	1,254	26,851	51,618	58,515	63,853
TRIP			6,731	33,957	38,141
META				16,028	34,427
TAVAJ	32,071	51,108	57,549	56,676	33,623
TOTAL	7,613	28,986	38,087	35,536	22,742
PASSAREDO	22,095	49,287	562,064	532,936	20,124
PRESIDENTE	234	4,341	3,310	665	4,545
ABAETÉ	1,823	2,220	3,217	3,512	3,065
TAF	7,921	6,403	2,911	1,131	1,016
BRASIL CENTRAL	140,347	79,421	-	-	-
TAM EXPRESS	13,905	43,650	102,066	72,121	-
TABA	31,221	9,147	11,536	7,059	-
ITAPEMIRIM		795	1,184	-	-
TOTAL DOMÉSTICO	16,593,681	17,823,705	22,537,570	22,203,955	24,298,154

In 1998, the demand was first boosted by the air tariff war among the national companies, which let people who were not accustomed to fly to experience it for the first

time. After a little retraction in 1999, it returned to a level slightly superior as 1998. To supply the national companies with passengers from the countryside, there has been an increasing number of regional companies start-ups and expansion of the old ones. Even with the Brazilian crisis, the domestic segment has been significantly increased in passengers transported since 1992 as can be easily seen in the chart below. Outside the regular sector, the non-regular one, composed by the air taxi and correlated services, has been suffering with both the currency devaluation and unstable economy and the war tariff among the bigger airlines.

Gráfico 3.3 - Passageiros-Quilômetros Transportados - Tráfego Doméstico Regional



Fonte: Dados históricos - Anuários do Transporte Aéreo - DAC - Volume I (1978-96) - 1997 – Dado preliminar.

There are strong evidences in the already deregulated developed air markets that the Brazilian one presents a series of possible and profitable opportunities to big as well as to small companies. The presence of new players in the Brazilian air market is increasing in a very fast speed. Besides the deregulation, another important feature to be overcome is to inform the general public about how this important market explored by some of adventures pilots with their flying machines is a normal human activity like drive taxis, buses or trucks. Some of the myths that the general public has about aviation are explored in the next part of this paper.

Breaking myths in aviation

Flying has long been mankind's aspiration, mainly because it causes great admiration in people. The first attempts to overcome the force of gravity came up with some awkward inventions mimicking birds' wings. Plenty of incredible people with their strange inventions played a significant role in the history of aviation, which is in continuous and quick development. Indeed, the first pilots were those who invented their flying machines. Then, they were prominent people of that time as they primarily were scientists. The challenge of inventing machines added to that of flying made those scientists be admired. The eagerness for achieving better performances and distances was fed by the excitement that aviation

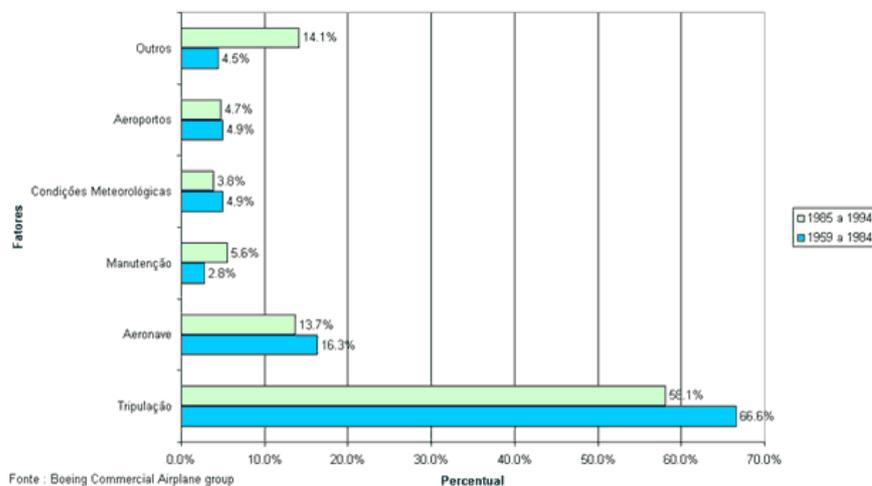
provokes; excitement that still maintains alive the freedom and beauty of flying, although it causes an idea of mastering uncertainty mainly in small airplanes.

Nowadays, although the aviation industry is present all over the world, permitting its integration and boosting new technologies, some of the views from the past are still prevailing not only related to small airplanes but also to big jets. Clearly, airplanes are the safest means of transportation in all their categories, even in the smaller ones. However, flying is still a myth, as people generally see it as a menacing or an adventurous or simply a dangerous and necessary vehicle. These ideas are based on the following aspects: the machine itself and its environment, the lack of information about the present technology to help and control the air traffic, the audacity and adventurousness associated with pilots in the viewpoint that they are dealing with dangerous machines, and the drama presented by the media related to airplanes' accidents and their repercussions.

First of all, the evolution of the aviation system is speeding while the human's recognition about it is in slow progress. Airplanes have been improving at the speed of light whereas people's perception of them has been traveling at the speed of sound. Even in small airplanes, the art of flying has become more sophisticated. A single-engine four-seat airplane has accurate instruments to operate at night under bad weather. It also has a GPS – Global Positioning System, which is an instrument guided by satellites that has a very high cost effectiveness and gives precise data about heading, distance, speed, time, position in relation to some aviation auxiliary points, nearest airports, route planning, map drawing, and some other extra information.

The GPS is as important as computers are for big jets. Besides all this apparatus, airplanes are built to overcome mechanical failures. So, the engine has duplicate parts in order to maintain it working properly in case of any malfunction or even failure. Hence, airplanes can be considered dependable machines, due to the fact that less than 15% of the accidents are derived from mechanical failures as shown in the chart bellow.

PRIMARY FACTORS THAT CAUSE ACCIDENTS (PERCENTAGE):



Nevertheless, even with extensive databases about causes of accidents and comparative studies showing very low probabilities of accidents while traveling by plane

instead of cars, people remain skeptical about flying. According to the FAA – Federal Administration Association^{xiii} “airline accidents are very rare events and the risk of death or serious injury for air travelers is exceedingly small.” Professor Arnold Barnett of the Massachusetts Institute of Technology, using data from 1990 to the present, teaches that a passenger faces a death risk of one in eight million. He explains that, if a passenger facing a death risk of one in eight million were to choose one flight at random each day, that passenger would, on average, go for 21,000 years before perishing in a fatal crash.

Adding the environment where flights take place - the atmosphere - to the previous scenario, things can become worse in the popular believes. The air movement is a natural phenomenon that occurs in different forms. One of the most frightening natural occurrences in the atmosphere for passengers is turbulence because of the sudden shakes it causes. Turbulence does cause injuries as it does cause fear. But the level of injury is minuscule compared to the panic it causes on most passengers not only because of the abrupt movements but also, and especially, because it is practically unknown when it is going to happen. Following the FAA definition, we have that “turbulence is air movement that usually cannot be seen or predicted. It can be created by a number of different conditions, including atmospheric pressures, jet streams, mountain waves, cold or warm fronts, or thunderstorms. Turbulence can occur when the sky appears to be clear.”

Passengers in general have failed to analyze a vital issue in the aviation development, which is that flight controllers have powerful tools to provide pilots with directions and maintain airplanes separated within a secure distance. They work with radar and communicating tools not only to have airplanes separated from each other and from obstacles but also to help them avoiding bad weather. They also guide the airplanes through approach and landing procedures to optimize both their routes and the airport landing capacity. On the other side, pilots also have on board sophisticated equipment to monitor their flights, such as a boarding computer connected to auto-pilot, which has auto-landing procedures, GPS – Global Positioning System, weather avoidance radar, altitude alert, and collision avoidance system, which captures the approaching of another aircraft and emits an audible signal to the crew.

Related to this field, FAA studies point out the changes and technologies in the aviation context, explaining the following: “the aviation industry is characterized by rapid changes. Whereas airline operations once were characterized by point-to-point service, hub services now dominate the industry. In addition, the airline industry experienced a major consolidation through mergers and bankruptcies during the past fifteen years. Airline activity has nearly doubled over that period. New technologies are constantly being introduced, such as aircraft collision avoidance systems. Overall, the aviation industry of 1997 is very different from the industry in 1982. Because of the dynamic nature of the aviation industry, care must be exercised to avoid comparing conditions or events spanning several years. This raises the issue as to what is the appropriate time frame to use when engaging in aviation safety analysis. While there is no definitive answer to this issue, the Federal Government frequently uses the most recent five years in its safety analysis and monitoring programs.

In addition to the technology available, the entity that takes care of aviation all over the world – ICAO - International Civil Aviation Organization - instituted a program to prevent accidents, which has been drastically reducing the number of accidents compared to the number of departures. This program takes into consideration several factors influencing safety. It analyzes maintenance, operation, training, airport conditions, fuel and catering procedures, and everything else that could lead to an aircraft accident. It also proposes

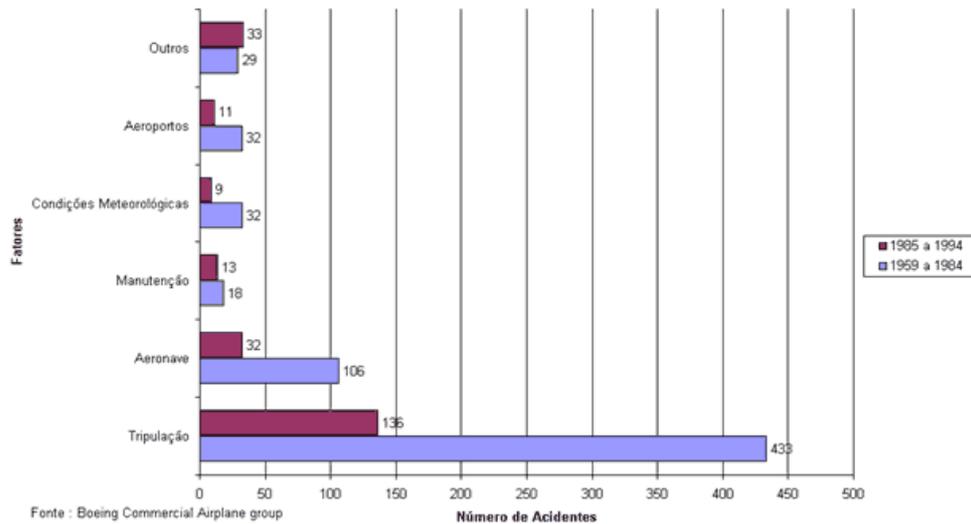
procedures to make people consciousness about the dangers, and, most importantly, to prevent potential risks. In addition, it gathers data from incidents to study them in order to elaborate procedures to avoid their recurrence, not only in a company or country range, but also among countries worldwide.

For example, as FAA explains, “the database contains reports of collisions between aircraft and birds while on approach to or departure from an airport. While such a collision may not have resulted in sufficient aircraft damage to reach the damage threshold of an NTSB – National Transportation Safety Bureau - accident, the fact that the collision occurred is valuable safety information that may be used in the establishment of aircraft design standards or in programs to deter birds from nesting in areas adjacent to airports.”

Nevertheless, the keen issue is related to pilots. They were pioneers in the development of several regions in the world where the access by roads or boats was difficult. They also adventured into crossing oceans when the resources to support the navigation were scarce. Moreover, they fought in the World Wars, which epitomized their symbols as heroes, courageous and adventurous people. Many of them did take huge risks in diverse flights’ missions. However, the flying machine today is quite different and so are the pilots. Although many pilots haven’t gone to university, they are required, even for piloting small airplanes, to have a certain knowledge of mathematics, physics, geography and subjects related to aviation: meteorology, navigation, air traffic rules and procedures, air safety, aerodynamics, technical knowledge and engines. They also need to submit to a medical exam every year, to attest their healthy condition.

Furthermore, each year, depending on their certifications, they receive a training session that culminates with a written exam about air rules and a flight examination with an inspector. The paradox comes from the fact that they are seen as though they were “adventurous and courageous men” because of the challenges of piloting an airplane, which in people’s view is the most danger part, but pilots are not considered as accidents’ precursors at all. However, by all means, they are those who cause the majority of accidents, in spite of their constant training as can be seen in the chart below. Clearly, they have good numerical and literacy skills to manage these complex machines – airplanes – and also they need to be active learners because they have to have some knowledge in new technologies to manage their work better in several aspects as new equipment operation, internet resources to plan routes, quick access to get weather forecasts, etc.

PRIMARY FACTORS THAT CAUSE ACCIDENTS PER NUMBER OF ACCIDENTS:



Ultimately, the media is a keen determinant for people's fear because not only when big accidents occur, but also when small airplanes all over the world crash, the slogan "if it bleeds it leads" prevails. The news usually reflect the fragility of the equipment, the death resulting and the shocking images, but it forgets to emphasize all the technology to enhance the system and how the number of accidents is decreasing sharply. In Brazil, we can see two classic examples of how the media explored the accidents. One happened in 1996 and the result was 108 deaths caused by an accident in which a part in the turbine failed in the take-off segment, the worst part to have a malfunction. The other one happened in July 2001, when a small helicopter crashed. The first images in this last example showed the fragments of the helicopter, which was piloted by the owner of Brazilian's second biggest airline.

In the US, we can cite John Kennedy Jr.'s accident and right now, the WTC's and the Pentagon's tragedies. In all the cases, the images were shocking and the fact that a lot of people died in the first and two famous people died in the following examples resulted in big repercussions. The last one is a sensation now all over the world because it involves several events together such as kidnaps, destruction, death, terror, diplomacy, war, justice, etc, proportionated by an "air show" only seen in Hollywood movies. As it is a common sense that the media is a powerful force in shaping people's understanding of the world, the myth around this theme will not be broken suddenly. Even those who have the sense of safety involved in flight operation are not confident about flying because of human nature.

The case of LNA Taxi Aereo

LNA Taxi Aereo is a small air taxi company, whose founder, an engineer and commercial pilot, started to operate with her father four-seat single engine airplane in 1995, in Divinópolis, MG. In 1996, a six-seat twin-engine aircraft, also from her father, was incorporated to the company. Its primary goal was to serve businessmen in the region in their travels in the southeastern Brazil. The only alternative other than flying with the company was to go to Belo Horizonte airports to fly out there. Divinópolis is located 120 Km far from BH, which takes about two hours from one city to another. As the region is dependent to Sao Paulo's industries, many requests were to fly to Sao Paulo city, in events and fairs, or even to daily business activities.

Then, to expand the business, the company had to make flights more cost effective for its clients. Flying alone was not cost effective when comparing to the cost of an air taxi flight with that of a regular air ticket fare. As a consequence, to make flights feasible, the company often had to call clients to find out whether or not they would be interested in joining this single passenger on a flight to São Paulo to make it economically viable to everybody. These efforts took a lot of time, and all too often, they did not produce the desired results. The only alternative was to sell air tickets individually and establish schedules to three weekly flights between Divinópolis and São Paulo in a modality called systematic link, as the regulation predicts (RBHA-135). However, to do so, the company would have to get permission from DAC – Civil Aviation Department (Departamento de Aviação Civil). To get the permission was both a very difficult task and time consuming. During processes such as this that one learns how difficult it is to manage an air company within a highly regulated market.

To accomplish the company's goal, which was to get a license to fly from the above-mentioned systematic link, the president of the company paid a visit to DAC to apply for the link. Although she had been at DAC several times before, she still could feel a certain air of disbelief in her initiative by the Air Force officers who run and work for DAC. This feeling was easy to be perceived when the young pilot president of a small and new company approached an officer to inquire how to do with the application for the systematic link. The officer's recommendations were full of prejudice against females and relatively younger entrepreneurs. He advised that obtaining such license was well above the possibilities of the company, as its size would not be enough to qualify for the new operation.

However, she had carefully studied the regulation and knew that the company was liable to qualify, so she was able to discuss the issue with a lot of propriety. She knew before hand that, under the regulation, there was an operation called systematic link, one that allowed air taxi companies to engage in regular flights as long as no other regional company flew the same route connecting the same airports. Confident of her knowledge acquired to meticulous reading of the Brazilian aviation regulations she insisted that the officer check his own regulations carefully. The officer, however, told her that the operation she was referring to had been regulated to encourage the development of aviation in remote regions such as the Amazon, where air transport was the only means of transportation, given the access difficulties generated by the huge Amazon jungle. According to the officer, the company did not qualify for that operation since this old regulation had been implemented for companies flying in the Amazon region only.

Nevertheless, the president of LNA taxi aereo pointed out that the legislation did not mention anything about such operation being restricted to the Amazon region; therefore, she

kept demanding that DAC qualify her company under that same regulation. Without any better-founded arguments, DAC had no option but to accept the application. Besides this first step overcome the next challenge was to come up with the paper work necessary to meet the requirements that regulate regular air companies. These requirements included the elaboration of different manuals, describing in detail the company's operation and maintenance procedures, a training program for pilots, and an air accident prevention program, manuals that at that time were demanded only from companies operating turbo-propeller aircrafts carrying more than nine passengers at that time.

After taking these first steps the president was introduced to the officers in charge of different areas that would be homologating the systematic link. At this point, the president was introduced to some former DAC's Air Force officers that were working as "despachantes". They offered help for homologating the manuals, as they know how things work inside the system better than anyone else. Until today, long after the end of the military dictatorship in Brazil, civil aviation is still subordinated to the Ministry of Aeronautics, thus ruled by the military. Another alternative was to buy a set of piece of software and fill in the company information.

At this point, one of the very few non military aeronautical engineers, who was shocked with the courage and determination of the young female pilot and entrepreneur, decided to help her with some advice to facilitate the process and to take a short cut through the bureaucracy. He recommended elaborating the manuals without using "despachers" or the offered software to do so, since both will result in complex procedures applied mainly to larger companies. Even though it would take longer to elaborate the manuals the company would still have the advantage of dealing with less complexity in the future. In this sense, the president was lucky to come across with one of the few men in the air industry who had an impartial attitude towards women and young entrepreneurs.

Accordingly, she carried out her mission of elaborating the manuals and after applying to DAC she kept herself preparing all the requirements to receive the license to operate the regular line between Divinópolis and São Paulo. As the first woman to start and operate an air company, especially a young woman, she had to face many challenges other than the bureaucracy. During the first inspection of the aircrafts, she dealt with military technicians who underestimated not only her capacity to elaborate manuals, but also her ability to manage the company. But all the efforts paid off, once nowadays, when visiting DAC to deal with different issues, officers have a totally different attitude, respecting her deep knowledge of regulations as well as management skills. However, problems were not all overcome because just after receiving the CHETA - Air Transport Company Homologation Certificate, by the technical sub department (STE) of DAC, one of the three sub departments that should analyze the applications to fly in the systematic links, the operation was denied by the operational sub department (SOP).

This happened because the systematic link requested was from Divinópolis – Campo de Marte (SP) and the planning sub department (SPL), following the instruction of the SOP, argued that Campo de Marte has no station to passengers and because of that the company could not operate there in "regular flight", although all air taxi companies, even with bigger aircrafts, can operate there. Having spent more than a year in the process, and arguing that since the first letter to DAC they knew about the route and airports involved was not enough to convince the Aviation Department to let the company operate. The involvement of a congressman was necessary to arrange a meeting with a "Coronel" at DAC. At this meeting, a

suggestion to change the operation from the original Campo de Marte to the Congonhas one, which was much more viable to the operation was made and promptly accepted. The new airport operates IFR – Instruments Flights Rules both for landing and taking off.

This move from one required airport to the better one, at that time, was possible because another company called Rio Sul Linhas Aereas had already canceled its line Belo Horizonte-Divinópolis-Sao Paulo. After the informal agreement was reached, it was needed to start the request from the beginning, and DAC officers promised that they would try to speed it up, since it was not the company's fault. One month later, while attending the CLA - Airline Commission, which is a committee where all the national and regional companies participate and are asked if they have any objection to an air taxi start to operate in specific routes. Having no airline interested in exploring that requested route the authorization was given.

However, the obstacles had not already finished. The request consisted of landing in Sao Paulo at 8:30 AM morning and taking off at 4:00 PM. At that time, the system to control the increasing traffic in the Congonhas airport had restricted operation until 10:00 AM and after 5:00 PM. Then, the requested schedule time was denied and it was only permitted to land at Congonhas no earlier than 10:10 PM. For businessmen it is inconvenient to reach Sao Paulo in the middle of the morning and leave in the same day at 3 PM. So, the company contacted the director of SRPV – Flight Protection Service, run by military, who authorized to work as an air taxi, calling everyday to request a slot. The director explained that my request of landing in a certain time would suffer at maximum 20 minutes delay in the landing time. So, everyday at 8:30AM, a call to Sao Paulo airport slot central should be made to get the 8:31 AM slot space to the following day.

Finally, in January of 1998, the company started to operate three-weekly flights to São Paulo. Soon, the company came across a major obstacle, as in mid 1998 the Divinópolis airport was closed for the implementation of a 1994's promised lighting system to allow night landings and take offs. Given the fact that the Divinópolis airport would soon be operating at night, the company decided to study the possibility of buying a 12-passenger Cessna Grand Caravan. With that purpose, some contacts with TAM - Transportes Aereos Marilia, one of Brazil's largest commercial airliners and sales representative for Cessna in Brazil was done. Having already experienced the general people's skepticism towards a small air company been managed by a woman, the license to operate a regular line was a key element in the negotiations with the TAM's sales director for Latin America. This initiative was critical to earn credibility and being given serious consideration for the purchase, since US\$1.5 million finance agreement to purchase the aircraft was involved.

After becoming acquainted with all the requirements to make the purchase and obtain financing from Cessna, a lot of cost effectiveness calculations of operating the new plane were done. Indeed, the Cessna Caravan would be much more cost effective than the six-seat Seneca. TAM brought a Cessna Grand Caravan to Divinópolis for a demonstration flight and a "test fly" by the pilot president was done. As the plane fill up all the company's expectations in terms of cost effectiveness as well as other requirements relate to space, security, etc, an application to get funds to finance the aircraft was filled up. A down payment of 15% of the total cost of the plane was required and the rest should have been financed.

Obtaining financing from Cessna would be much more advantageous than obtaining it from banks because of the Brazilian high interest rates while international rates, at least the

ones of Cessna Financing company, were *libor* plus 4 %. Therefore, to warrant approval of the operation by Cessna, a travel to Las Vegas was necessary in order to attend the NBAA-National Business Aviation Association, the largest international executive aviation trade show, to meet with Cessna's director of finance, and submit all the paperwork. Accordingly, after receiving Cessna's approval, in December of 1998, an agreement was signed and the order placed upon a payment of a reservation fee.

One month after signing the agreement with Cessna, the new governor of the state of Minas Gerais took over, and during his first speech, he not only made public the financial disarray under which the state was, but also recklessly declared a moratorium on all of that states debts, both domestic and foreigner. Governor Itamar Franco's precipitated statement added by some mismanagements of Federal Administration related to the exchange rates triggered a national crisis. The Federal Government immediately imposed several sanctions on the state, and international markets reacted by generating a speculative attack against the local currency, the real. As a consequence, the exchange rate for the dollar went from R\$1.20 per dollar to over R\$2.00 in two weeks.

In addition, most of the contractors in the state of Minas Gerais stopped their activities, afraid of not being paid for their services. Consequently, the improvements that were being made at the Divinópolis airport were also halted. Ultimately, the company was no longer able to afford the purchase of the new aircraft, and the purchase was postponed *sine die*. The company also face huge problems due to air-ticked fare war among the big Brazilian air companies, which took some of its traditional clients.

Later on, LNA Taxi Aereo was able to establish a service agreement with Rodoban, a company specialized in the transport of valuables for banks and corporations. Under the agreement established with Rodoban, the company started flying bank checks for overnight clearance. Thus, one aircraft was moved to the state capital, Belo Horizonte, and started operating daily flights. This was a strategic move to not only keep the company running but also keep the hopes that the Brazilian economy will be in the right track and the postponed expansion of the company, through the planned and dreamed acquisition of the Grand Caravan became a reality.

Final remarks

The case of LNA Taxi Aereo can be contrasted with some of the findings of the GEM 2000 study and reemphasized the main problems to overcome to be entrepreneur in Brazil. The study confirms the necessity of adequate environments. Approximately 2 percent of the adult population invests in new business start-ups, well below the average for all GEM 2000 countries whereas 12,3 % (1 out of 8) is entrepreneurs. Prevailing cultural attitudes toward entrepreneurship in Brazil tend to be conservative, as reflected in the negative assessment of failure (which is not seen as part of the learning process) and the skepticism that greets stories of individual success and wealth creation. The conservative and still military ruled DAC when dealing with a young women entrepreneur seems to represent this view.

Attitudes of dependence and assumptions that a paternalistic state will take care of social and well being still prevails in the Brazilian business sector. Although some steps toward privatization and deregulation have been taken, government involvement in business

casts a long shadow. The laws to modernize the Brazilian air legislation as well as deregulate or re-regulate the air transportation market should be broadly discussed in the Brazilian congress and approved as soon as possible.

Access to capital is a major obstacle despite its recent improved availability. Brazilian entrepreneurs that do not have access to the international financial market suffer from the skyrocket interest rates. In the case of LNA Taxi Aereo the negotiations to finance the acquisition of a new aircraft was possible and was in a well-advanced stage. But, domestic exchanges rates and macroeconomic mismanagements forced a huge devaluation of the currency and turned obsolete all the planned measures to expand the operations of the company. Suddenly the aircraft been bought became more than 50% more expensive in domestic denominated currency. Efforts by the government to improve the situation have yet to have a real impact.

The GEM study also mentions that in Brazil there are major infrastructure limitations and issues of public safety. Although literacy levels are improving, overall standards of education are inadequate. This matter was also mentioned by US scholars like Hausman and Spar and seems to be a common sense between specialists in education around the world. Even though the Brazilian government is trying to improve the educational level of its population it is not doing faster and better than other countries and in this way it will be difficult to master the basic skills necessary to be a global integrated industrialized country.

The 1994 promised airport in the city of Divinópolis started finally to operate at night in December, 2000 and the airport involved in the city of Sao Paulo is operating in its full capacity. The Congonhas airport, for example, doesn't attend the small and non-regular users' expectations. Ideally used as a regional airport, its exploration has changed to attend big aircrafts. Therefore, the needs of the smaller aviation companies were not attended. In addition, the noise the big aircrafts provokes prevents it to operate twenty-four hours a day because of its location in the middle of Sao Paulo. The small companies' situation is aggravated because the other airport in Sao Paulo – Campo de Marte – does not operate to land by instruments. To improve the situation, Campo de Marte needs a system to safely operate by instruments.

Another important issue in Brazil, the total tax burden is perceived to be high, constituting a deterrent to business expansion but also Government support for enterprise is regarded as inadequate; programs fail to address key issues and are insufficiently publicized throughout the country. Besides these general problems that affects everybody in the entrepreneurial sector there is also a strong informal sector that runs free from any fiscal measure or repression. This phenomenon can be easily perceived in the streets of the cities as well as in the air transportation market where some companies or private owners of aircrafts do really fly commercially without having license from DAC. This is a real unfair competition to the ones like LNA Taxi Aereo. The recent campaign organized by the DAC seems to be inefficient to solve this kind of problems. It seems that campaigns do not have the coercitive power required to discipline irresponsible entrepreneurs.

All in all, foreigner will not be able to deeply feel the context's portraits of entrepreneurship in Brazil. This is also difficult for the Brazilians non-entrepreneurs. But, governments and congressmen must understand and be conscious of the strong unfavorable situation in Brazil *vis a vis* other developed countries. The Brazilian's small business association - SEBRAE, which is a branch of the Federal Administration, created in 1999 a

program called “Brasil Empreendedor”, to provide low-interest financing, professional training and other basic support services to smaller businesses. The program has been a success but unfortunately it covers just a small part of the huge demand for funds necessary to let Brazilians be more entrepreneurship. Besides funds, as mentioned earlier, not only education but also training is crucial to raise the level of success of new as well as old established companies.

As a final remark, it is important to remember that scholars in general and Brazilian policy makers should add to the question of the GEM 2000 study: “what can be done to enhance entrepreneurship and create a genuinely entrepreneurial society?” the question: “How to build an entrepreneurship culture in Brazil?” Brazilian administration, including the three spheres of power, knows the answer. Fortunately, some Brazilians are coming to know that unfortunately, they do not have the courage to implement the necessary measures. What they really do not know is that Brazilians do not want to wait farther for effective resolutions.

Last but not least, being a woman flying small airplanes, LNA’s founder points out that it is not difficult to feel the first impressions people have in their first flights. Then, when they try another one, they are more comfortable in the new environment. When experiencing the fourth or fifth flight, they start to ask about lessons, prices and advice. Moreover, seeing a young woman flying transmits to them the idea that pilots are not “supermen”. Furthermore, when they understand that small airplanes have lots of equipment equivalent to that in big jets, and that they are also engaged in safety, training, maintenance and operation programs, their view of the matter changes drastically. Then, their liberty spirit starts to struggle with their fears. It is only a question of time for them to initiate a new venture in the skies.

In sum, breaking the myths about the factors above that impact the perception of flying and modernizing both the agencies and the regulations of the Brazilian air market are starting points to a boost in aviation. Having people broken the skepticism about the small and fantastic flying machines is a key factor to companies to be ready to compete when the country is ready to offer its entrepreneurs adequate business conditions.

ⁱ An overview not only of this period but also the Brazilian search for growth and development from the 50’s to nowadays can be seen in Lincoln Gordon. *Brazil’s second chance: en route toward the first world*. Washington, D.C: Brookings Institution Press, 2001. 243 pp.

ⁱⁱ Inter-American Development Bank. *Latin American Economic Policies*. First Quarter. Vol. 13, 2001. p.8

ⁱⁱⁱ Inter-American Development Bank. *Latin American Economic Policies*. First Quarter. Vol. 13, 2001. p.1

^{iv} <http://www.ncoe.org/entrepreneurship/fastfacts.html>

^v National Commission on Entrepreneurship. *Five myths about entrepreneurs: understanding how business start and grow*, March 21 p.21. http://www.ncoe.org/entrepreneurship/who_are.html

^{vi} Interview done at Kennedy School of Government, Harvard University, in June 2001.

^{vii} Interview done at Kennedy School of Government, Harvard University, in June 2001.

^{viii} Interview done at Harvard Business School, Harvard University, in May 2001.

^{ix} Reynolds, Paul D. et. Al. *Global Entrepreneurship Monitor 2000 Executive Report*. Babson University, Kaufman Center for Entrepreneurial Leadership, London Business School. 2000. This report is easily found in the homepages of these 3 institutions. The report can be seen at: <http://www.entreworld.org/>

^x GEM 2000 Report, p2.

^{xi} GEM 2000 Report, p3.

^{xii} GEM 2000 Report, p2-3.

^{xiii} www.faa.gov