

Analysis Of The Aviation Industry As A Growth Sector Of Economy: A Study Of Nepali Aviation Industries

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Abstract: This research paper has been prepared based on the studies of Nepali aviation industry and its impact on the economic sector of Nepal. It is understood that presently Nepali Aviation has Direct, Indirect, and Induced influence on the economic development of Nepal. Although, fixed wing aircraft is currently being used less frequently in our country, their flight to other countries along with the use of helicopters, have been effective on adding to the potency of aviation industry of Nepal. This also has marked contribution on the rise of economic status of the country. While this business has a capacious potential, the development and expansion of this industry is seemingly moving at a snail's pace. This research paper is thus based on the reason behind this delayed advancement of the industry with primary focus on its impact on the country's economy. This research finding will be valuable for all type of aviation industries around the globe to achieve high level of economic growth.

Keywords: Aviation Industry, Economic Growth, Growth sector of Economy, Influencing Factors

1. Introduction:

The establishment of Aviation in Nepal dates back to 1958 A.D. Aviation services at those times were used only for convenience of the Royal family of the country. Gradually, with new inventions and discoveries, its use has expanded and today, it is used as public means of transports well. With minimal roads accessible to the remote areas, air transport proves to be the best route to move various goods and travellers to those regions. At present, the aviation sector has itself become an independent industry. After the implementation of 'Open Sky Policy, 1990' this industry is flourishing, with more than 20,000 employees at work which at foundation were only 200. The aviation service in Nepal, that first began with DC-3, at present, has advanced Airbus A320 fleet. More than 15 Airline companies have been established with about 100 serviceable aircrafts [6]. These aircrafts are not only capable of providing transportation but also have diverse aptitude for tourism, search and rescue (air ambulance), sports, air force in war to name a few. Then why haven't these services come into action? Is it because of the poor economic state of the country or does the political instability also play any role? In this research paper, Author have included the review of Nepali aviation industry, Analysis of Nepali Aviation as growth industries, comparative study with international aviation services, arguments and discussion and a conclusion to end with.

2. Literature Review:

Review of Nepali Aviation Industries: History of Nepali aviation is not as old as other. Nepal Airlines is the flag carrier of the airline in Nepal. As mentioned earlier, Royal Nepal Airlines Corporation (RNAC), established in 1958, was Nepal's first Airline. This airline first served a few domestic routes in Nepal and a handful of cities in India. A few international aircrafts joined the fleet from China, Russia and UK. The fleets were basically financed from aid programs from the country of manufacture. The route gradually expanded internally and externally and in 1987,

RNAC network connected 38 domestic and 10 international destinations including London, Frankfurt and Tokyo [10]. To regulate the aviation industries, the government had established Department of Civil aviation in 1957 A.D. under Ministry of Work, Communication and Transport. Later in 1960 A.D., Nepal obtained the membership of International Civil Aviation Organization (ICAO). At present, Civil Aviation Authority Nepal (CAAN), as an autonomous body has been established on 31st December, 1998 to ensure flight safety along with sustainability of civil aviation with prime objective of making aviation safe, regular, standard and efficient (Nepal Airlines, n. d.). In the following paragraphs, I have summarized the classification of aviation era in Nepal. The aviation industry has various eras in Nepal as follows:

2.1 The early period (1950s and 1960s): Nepal Airlines was established as Royal Nepal Airlines in July 1958 with one Douglas DC-3.

2.2 1970s to 1990s: in 1970, NAC acquired its first Hawker Siddley HS- 748 followed by Twin Otters in 1971 and Boeing 727s in 1972. Two Boeing 727s gradually replaced the Airline's Boeing 727s in 1987. RNA carried 38 percent of the tourist passengers in Nepal from outside. But that number was down from the company's peak market share of 50 percent in 1979 due to various geopolitical reasons like war in SAARC region. Indian Airlines proved to be a tough competition for Nepal Airlines. RNAC reported revenues of \$54.3 million in 1988 to 1989, producing an operating profit of \$17 million. With a workforce of 2,200, NAC had become country's largest employer and largest earner of foreign currency bringing roughly \$15 million per year from abroad. Seventy-five percent of company's passengers were foreigners. Then, RNAC was the only airline providing domestic flight services (Nepal Airlines, n. d.).

2.3 1990s to 2000s (Period of Corruption): With introduction of democracy in the country, the domestic air

market was liberalized and new private airline companies emerged in the aviation market viz. Necon Airways, Nepal Airways, Everest Air, Buddha Air, Yeti Airlines and Sita Air. In December 2000, a large scandal revolved around the lease of a Boeing 767 aircraft from Austria's Lauda Air, which entered service in over protests from employees and government officials. The latter claimed the deal was unnecessary, since NAC was not getting enough usage from its two existing Boeing 757s; further, the actual cost per flight hour of the Laudab jet ended up being \$5,000 (\$1,150 above the cost specified in the contract). RNAC chairman was suspended during an investigation, along with other NAC executives; Nepal's tourism and civil aviation minister resigned soon after. In 2004, it was reported that the Government of Nepal had decided to sell off 49% of its stake in Nepal Airlines, to the private sector, and hand over management control, whilst retaining a 51% share. This would provide the investment to get the airline out of significant debt. The former chairman of Nepal Airlines was jailed for corruption in February 2005. In this period private sector of Nepali aviation industries were doing their best to reach the level of RNAC at that time [10].

2.4 2010 till Date (Modernization Period): At present there are about 15 private airlines including helicopter services operated in Nepal. Buddha Air and Yeti airlines are doing well in aviation business as compared to others. Buddha Air is considered as the best among the modern air industries in the SAARC region. Modern ATR aircrafts of these airlines make Buddha Air one of the safest airlines in Nepal. All present aircraft and its fleet status are shown in the appendix.

2.5 Analysis of Aviation Industries as Growth Sector of Economy: For the comparative study, Author have taken into consideration, the Thai Airways, which was established in 1960, two years after the establishment of Nepal Airlines, which is one of the bench marks for Nepal airlines in all dimensions of the aviation organization. With reference to the graph on Fig. 2, we can see that there is a sharp yet constant rise in the number of fleets of Thai airlines till the year 1980 [11]. Similarly, though the rise in number of fleets of Nepal Airlines till 1980 was not as rapid as Thai Airways, the number of fleets was increasing. After 1980, the number of fleets of NA however seem to decrease while that of Thai Airways were still increasing. Financial growth of CAAN, a governmental body, is a valuable indicator to understand the entire aviation industries of Nepal. On analyzing the data of Civil Aviation Authority of Nepal (CAAN), the following have been observed:

- Passenger travel and aircraft movements are decreasing in Nepal due to increasing road accessibility to the remote places of Nepal.
- International Passenger travel, aircraft movements and cargo transports are increasing in Nepal due to foreign employment to Middle East, Korea, Malaysia, and other countries.
- Total direct employees in these aviation industries have increased to 20000 (Per aircraft 200 man power) which show positive economic growth of these aviation industries.

- So far, Nepal Government has not taken into consideration the economic benefits of these industries. However, there are numerous direct and indirect benefits of this industry. For instance, direct would be the revenues from the passenger transport and cargo, indirect would be increased tourists coming to Nepal that would help to flourish the tourism industry. Therefore, taking all of these influences into account, it is high time to acknowledge the beneficial effect of growth of aviation industry on economic growth of Nepal.
- New trend of touristic flights and aviation sports could be better sector that Nepali aviation industries can grow in the future.

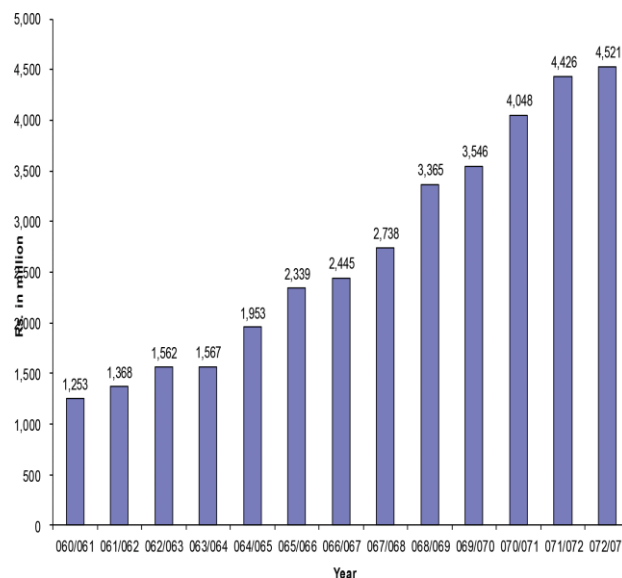


Figure 1: Revenue trend of CAAN (Positive proof of Economic Growth in Nepal)

In a nutshell, Nepali aviation industry is operating as growth factor of Nepali economy. Nonetheless, there are still a lot of rooms for improvement. Nepal government needs to bring new plans such as strategies for aviation sports, air ambulance and even tourism aviation like mountain flights. Government should also consider passenger and crew safety. Beyond any shadow of doubt, in a country where the government itself isn't stable, a proper managerial skill and good leadership is too much to ask for. Nevertheless, economic discipline, joint venture, employee as owner, and modernization of aircraft fleets are among those few key issues that are yet to be practiced in Nepal. With these practices, safety of the passenger and crew and security of the airline business would be a cinch. The air transport industry is not only a vital engine of global socio-economic growth but is also of vital importance as a promoter for economic development, creating direct and indirect employment, supporting tourism and local businesses, and stimulating foreign investment and international trade. Growth rate of aviation can be determined by its expansion of service, its revenue, number of employees and number of fleets.

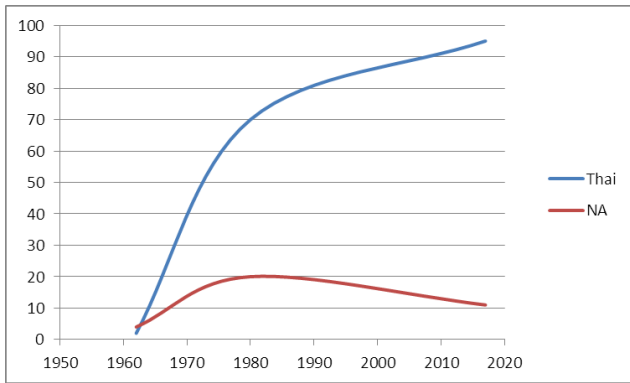


Figure 2: Comparison of Aircrafts fleet of Nepal airline with Thai airways

The above comparison clearly shows the fleet size of Nepal airline and Thai airways in terms of aircraft numbers. Although these two airlines started at the same time Thai airways is doing 100 times better than Nepal airlines in all dimensions of the organization. Total growth rate of aircraft fleet is around 3 % in Nepal whereas in Thailand, it is more than 15%. Regional growth of aviation in this Asian region is about 10%. Nepal is far behind in this aviation growth rate due to various reasons. Author, would like to discuss it in the argument section. Looking at figure 2 to7, we can conclude that aviation is a growth industry in worldwide economic perspective.

transport industry make significant tax payments to national treasuries. Aviation infrastructure costs are funded through user charges (passengers and airlines) and airport commercial revenue. A key driver in the growth of passenger traffic has been the steady decrease in the real cost of air travel. Airports are more than just vital parts of the global transport system, linking communities and businesses with the world, which is unlikely in Nepal. Air transport also helps to generate economic growth and poverty alleviation by providing employment opportunities, and increasing revenues from taxes[4].



Figure 4: Aviation industrial growth

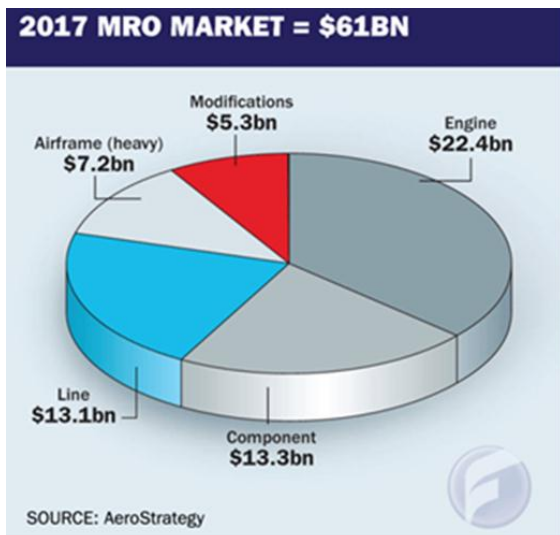


Figure 3: Aircrafts Maintenance Market

The air transport industry contributes around US\$ 880billion a year to world GDP, taking into account its direct, indirect and induced impacts – equivalent to 2.4% of global GDP. Its direct impact on GDP is US\$ 330 billion .The air transport industry in Europe and North America make the greatest contribution to GDP when comparing all regions. Air transport is indispensable for tourism. Around 40% of international tourists now travel by air. Unlike other transport modes, the air transport industry pays a vast majority of its own infrastructure costs (runways, airport terminals and air traffic control), rather than these being financed through taxation and public investment or subsidies (as is typically the case for road and railways). In addition, companies in the air

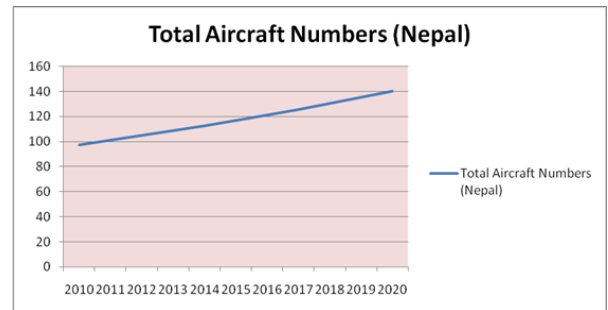


Figure 5: Aviation Growth in Nepal

From the above fact, Nepali aviation industrial growth is the one of the lowest growth in this SAARC region.

3. Argument and Discussion on Aviation Industries as a Growth Sector of Economy:

From the facts and figure mentioned above, it can be concluded that air transport provides following vital economic benefits:

- Aviation provides the only worldwide transportation network, which makes it essential for global business and tourism. It plays a vital role in facilitating economic growth, particularly in developing countries.
- Aviation transports close to 2 billion passengers annually and 40% of interregional exports of goods (by value). 40% of international tourists now travel by air.
- The air transport industry generates a total of 29 million jobs globally (through direct, indirect, induced and catalytic impacts).
- Aviation’s global economic impact (direct, indirect, induced and catalytic) is estimated at US\$ 2,960

billion, equivalent to 8% of world Gross Domestic Product (GDP).

- The world's 900 airlines have a total fleet of nearly 22,000 aircraft. They serve some 1,670 airports through a route network of several million kilometers managed by around 160 air navigation service providers. 25% of all companies' sales are dependent on air transport. 70% of businesses report that serving bigger market is a key benefit of using air services [4]

From the global analysis of aviation growth, aviation growth rate is almost 10 % in SAARC region. SAARC is among the fastest growing economy in the world for both domestic and export markets influencing the global market, this region has started to prove its importance as the emerging area. The 'macro' nature of the region signifies the optimism for trade and investment.. With attractive growth market and strategic location it has largest skilled man-power and professional managers available at competitive cost, for example, SAARC is one of the largest pools of scientists, engineers, technicians and managers in the world. Even with this background, Nepali aviation is not doing well because of various factors. From the historical background, mentioned previously, we can conclude that several Nepali airlines were in the Nepali sky after open sky policy of Government of Nepal. Political instability and Poor Managerial Leadership qualities are responsible for this poor aviation growth. But during economic boom era as mentioned earlier, it is clearly noticed that Nepali aviation can flourish like any other airlines in the world.

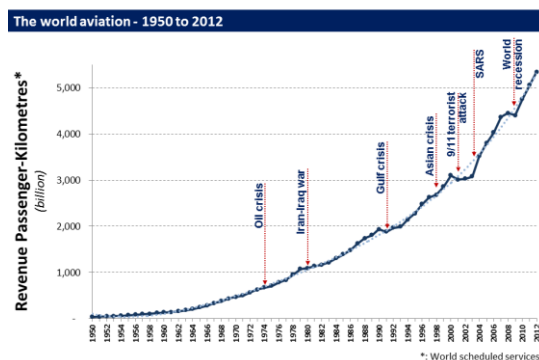


Figure 6: Aviation industrial economic turbulence during various crisis

Air transport is a major employer in this 21st century. As per ICAO research findings the air transport industry generates a total of 29 million jobs globally among which 5 million are direct jobs and 5.8 million indirect jobs through purchases of goods and services from companies in its supply chain. 2.7 million induced jobs through expenditure of aviation employees. 15.5 million direct and indirect jobs through air transport's catalytic impact on tourism. Even in the economic turbulences there were no such noticeable effect refer Fig 6.

3.1 Role of Safety:

Safety of aircraft also critically affected due to the above mentioned issues. Nepal has till date been reigned by Prime Minister in last 25 years as a democratic country. This clearly shows marked political instability in the

country over these periods. Number of air crash also might be an essential factor for constant number of aircraft fleets .Fatal air accidents since 1958 is 55 and total casualties are 772.The Aviation Safety Database of the Aviation Safety Network records as many as 22 plane accidents in Nepal since 2000, of which 14 involved fatalities. Globally, aviation is considered the safest mode of transport, but the high incidence of plane accidents in Nepal places a big question mark over the country's aviation safety. Are Nepal's skies comparatively unsafe? Are we geographically cursed? Is human error playing a crucial role in fatal accidents? Or is our aviation industry technologically incompetent? These are some of the queries that arise in any one's mind when looking at ICAO figures on plane accidents in Nepal. A number of factors are responsible for air crashes in Nepal, but almost every factor is closely connected with human error. Increasing frequency of plane crashes in Nepal is also directly related to lack of application of internationally accepted and developed safety measures which is the major responsibility of an Aviation Leader. Hence, lack of proper leadership is responsible for this poor safety record in Nepal. Leadership at national level, regulatory level, and at industries level, all are responsible for this growth or decline of aviation industries in Nepal. As per aviation experts of Nepal, a Delphi research technique has been used to find out the influencing factors of aviation economic growth. Several round of discussion among Nepali aviation experts has been carried out and influencing factors recognized. Key Factors that influenced Aviation Industries as per analysis of data are summarized. Experts group included all experts of aviation industries like Ex. DG, Senior Pilots, Sr. Aeronautical Engineers, and ATC officers, Airport Managers. All final selected influencing factors are listed as below:

- Corruption as mentioned in the review.
- Political instability
- Poor leadership in organization.
- Frequency of Leadership changes
- Lack of regulatory compliance
- Unhealthy competition within the airlines
- Organizational Culture
- Geo political reasons

The above mentioned points have also been tested in various researches and those researches, author, have summarized in the paragraphs that follow:

3.2 Corruption:

To validate relationship between corruption and economy, I have gone through some of the valuable research findings. One of the most interesting research on corruption is Brazil is one of them. Research on political corruption in Brazil have two dimensions: 1) the manipulation of political decisions to favor private economic gains; and 2) the illegal appropriation and "detour" of public funds by politicians and/or their designates (persons or institutions), for their own use or for campaign finance [7]. Years of political instability have contributed to the high rate of corruption and underdevelopment in Economic Community of West African States (ECOWAS) countries [2].

3.3 Leadership and Economic Growth:

Countries experience persistent changes in growth rates across these leadership transitions, suggesting that leaders have a large causative influence on the economic outcomes of their nations. The paper further shows that the effects of leaders are very strong in autocratic settings but much less so in the presence of democratic institutions. Changes in leadership do also affect economic growth trajectories. Effective public administration is vital for managing the transformation process [8].

3.4 Organizational Culture:

Organizational culture in an organization will favorably influence its organizational performance [12].

3.5 Political instability:

In many African countries almost elective positions doesn't follow the due process laid down by parties, results are at many times predetermined. The laid procedures are usually ignored and not followed [9]. Political instability reduces growth. This finding is very robust: it has been obtained in a model in which several other economic determinants and "regional" factors affecting growth and political stability are accounted for [3].

3.6 Regulatory compliance:

Compliance is connected with transparency, accountability, ethical behavior, organizational structure and risk management. Corporations will take a cautious position in defining the scope of compliance in order to avoid beginning with many things but finishing with just a few [5].

3.7 Geo Politics:

Geopolitical changes leading to political or economic instability have the potential to disturb markets [1]. These above are among a pool of factors related to leadership of aviation organization and proper leadership can improve the aviation organization to achieve their goal and can expand the organization in all dimensions like finance, employee numbers, services and expansion of its market within Nepal and globally. Nepal, as it is situated in between both economically powerful countries, has been overshadowed in aviation industry. Few future projects of Nepal government can be taken as few milestones of economic growth. Those national big projects are as follows:

- Air Transport Capacity Enhancement Project
- Gautam Buddha International Airport Project
- Pokhara Regional International Airport Project
- Second International Airport Project

With these growing projects to begin with, in the field of Aviation industry in Nepal, a ray of hope has shone in pitch darkness. Such big projects of any nation can contribute a lot for the growth of the aviation industries. Thus, theoretical framework of this research paper can be shown as below:

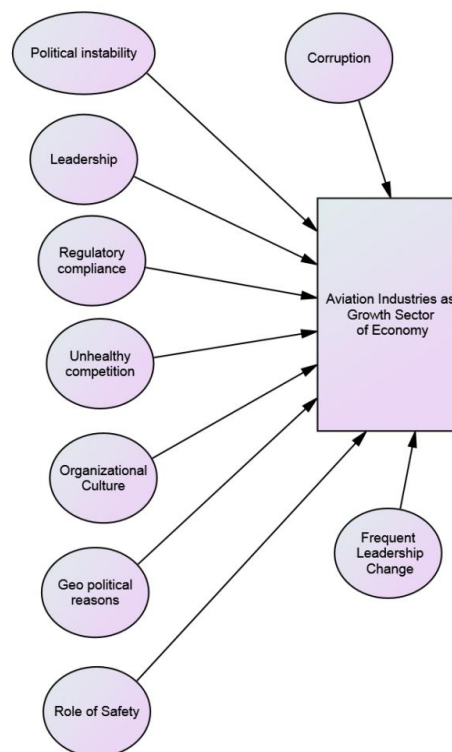


Fig 7: Bastola Model (2017): Influencing Factors for Economic Growth of Aviation Industries

4. Conclusion:

There are significant and positive benefits generated by investment in aviation infrastructure and services, particularly in developing economies. Greater aviation connectivity and the improvements in productivity and GDP growth can also help to boost country 'competitiveness. Nepal has huge potential of aviation industries and can become a regional hub for the Asian region due to its geographical location. Aviation provides the only worldwide transportation network, which makes it essential for global business and tourism. It plays a vital role in facilitating economic growth, particularly in developing countries. Not only in global aspect, but Nepal also has a potential to flourish in aviation sector. It has all the pre requisites for sustainable development of the aviation industry. Now, all that our aviation sector requires is a bit of support from the government and the funding for maintenance. The points about leadership and corruption mentioned in the discussion section has been tried and tested in other countries as well and they have shown a significant role in aviation growth and advancement. In a nutshell, proper leadership along with political stability in our country can open doors to the aviation growth which in turn will not only improve our economy but also will improve the quality of life of people residing in our country. Author, hope that this research paper will bring attention of the concern government, the stake holders and all concerned authorities on the lagging factors of the aviation industry. Author, also hope that this will add some knowledge in the academic field. This will also become a valuable knowledge for the managers who want to grow their aviation industries around the globe. Above model can be valuable tool for future researcher.

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