

Case Study: Nepal Airlines Corporation (NAC)

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Abstract: Nepal Airlines Corporation (formerly known as Royal Nepal Airlines Corporation), set up in July 1958 with Douglas DC-3 Dakota Aircraft is the flag carrier of Nepal. From past several year Nepal Airlines Corporation is in financial crisis at a time when private sector airlines are earning big profits. If the existing challenges and problems of the Corporation are not timely addressed, there is a danger of the Corporation getting into liquidation. Case study research method was selected to analyze the situation and the whole scenario of NAC. Attempt was made to find out the reasons for the poor performance of NAC in national and international fights. The report gives you the SWOT analysis.

1.Nepal Airlines Corporation(NAC)

Formerly known as the Royal Nepal Airlines Corporation (RNAC) was established in 1st July 1958 through enactment of Nepal Airlines Corporation Act 2019 with the intention to provide the air transportation service to be Nepal's first airline, with one Douglas DC-3. It is also built as the flagship Airways of Nepal and is a symbol of heritage to the country. It is the government owned airways company. Over 50 years of serving the people has made it the most accessible airlines in the country. Its head office is in the Nepal Airlines Corporation (NAC) Building, Kantipath, Kathmandu and its main base is Tribhuvan International Airport (TIA), Kathmandu. At the beginning, its services were limited to Simara, Pokhara, Biratnagar and Indian cities such as Patna, Calcutta and Delhi.



Figure 1.1: -Royal Nepal Airlines DC-3 on grass runway at Pokhara, Kaski.

In 1961, Pilatus Porter STOL aircraft joined the fleet, and in 1963 12-seater Chinese Fong Shou-2 Harvesters were brought into service, opening up the kingdom's more remote routes. The Fokker Friendship F027 launched Nepal into the turboprop era. In operation from 1966 to 1970, it carried 44 passengers and flew to NAC's international destinations. A lot of prestige was attached to travelling in a Fokker in those days. In 1970, RNAC acquired its first Hawker Siddley HS-748, The 44-seater planes were utilized on domestic and international sectors followed by Twin Otters in 1971.

The nation became the proud possessor of a jet plane carrier with the induction of a Boeing 727 in 1972 and remained in service till 1993. The first of Nepal Airlines two B757s arrived in 1987. Flying on long-haul routes and displaying

the national flag at world airports, they helped Nepal make its presence felt in the international aviation scene. In 1990 RNAC had four medium-haul jets flying to 12 international destinations and seven turboprops servicing 20 domestic airfields. The trajectory of an airline that used to be considered one of the best in South Asia correlates closely with the country's recent history. The slide began soon after the restoration of democracy in 1990 as politicians interfered with management for kickbacks and patronage.



Figure 1.2: - B727

The name of the airlines was changed from Royal Nepal Airlines to Nepal Airlines in 2006 after the cut down of the power of the king by the parliament. In 2013, NAC changed its livery. Introduced in 1987, the previous livery features red and blue stripes on the aircraft's tail and the name Nepal Airlines in blue. It also portrays Nepal's nationality, religion, national color and the Hindu God, the symbol of Akash Bhairav—a Hindu deity regarded as protector of the sky has kept intact and remaining other design has been changed. The change in livery has been intended to give a message of change and of course, betterment in our services amid the growing negative messages about the NAC all over.



Figure 1.3: - Old livery and New livery

Nepal airlines fleet history includes the following:

Aircraft	In Service	Exit From Service	No. of Aircrafts (In Service)	Seating capacity
Douglas DC-3	1958	1973		28
Pilatus Porter	1961	1998		6
Fong Shou-2 Harvester	1963	1965		12
Fokker F27 Friendship	1966	1970		44
Hawker Siddley HS-748 Avro	1970	1996		44
de Havilland Canada DHC-6 Twin Otter	1971		3	19
Boeing 727-200	1972	1993		123
Boeing 757-200	1987		2	190
Airbus A310-304	1993	1996		220
Boeing 767-300	2000	2001		210
Harbin Y-12	2014		1	19
Xian MA-60	2014		1	56
Airbus A320-200	2015		2	158

1.2. Organizational structure of NAC:

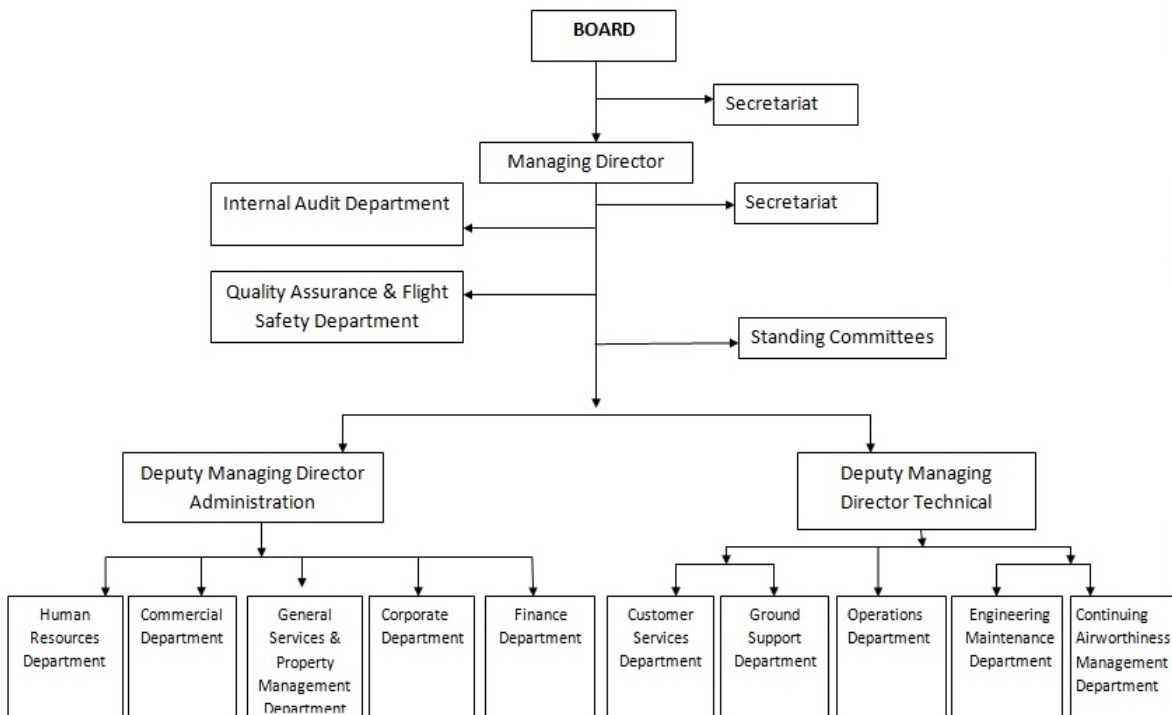


Figure 1.4 :- NAC organizational structure

2.Current Scenario of NAC

Although NAC is still operating its activities internationally and domestically but its progress has been negative. It has less aircraft than it used to have before, all current operating aircraft and ordered aircraft are listed below. The corporation itself is disorganized and corrupted. The political system is volatile as there is no safe environment for airline operation. As the demand is soaring for migrant workers the NAC itself cannot commit to buy planes to enlarge the service. Its failure to provide quality service and time to grounding of aircraft is another problem the industry is facing. There is no transparency in the organization and all operation activity is hugely corrupted. The government is unstable and the industry is in complete mess.

2.1 Airbus A330-200.

NAC has signed a Memorandum of Understanding (MoU) with European plane-maker Airbus for A330 aircraft during the Dubai Air Show, the \$500 million deal would be the largest ever in Nepal's aviation history. NAC has ordered Due in December 2016 and February 2017, the A330s will replace the Nepalese national carriers of B757-200 which are slated to be sold off later this year. The aircraft would be used in opening routes to Osaka Kansai and/or Tokyo Narita in Japan as well as Seoul Incheon in South Korea.

The A330-200 is the shorter-fuselage variant of Airbus' A330 twin-engine widebody family, and has the versatility to cover all ranges from short-haul to true long-haul, with ideal sizing for point-to-point operations. The A330-200 is well established with major carriers around the world, and has become a preferred aircraft for charter and leisure operators, as well as the growing low-cost long-haul market segment. With Airbus commonality in cockpit and cabin systems, an increasing number of airlines that fly the single-aisle A320 Family are discovering the advantages of stepping up to the widebody A330-200 for higher-capacity, longer-range service.

2.2 Airbus 320-200

In April 2013, the long pending Memorandum of Understanding was agreed between Nepal Airlines and Airbus regarding the purchase of two Airbus A320s. On the June 2013, The Airlines signed a loan agreement worth Rs 10 billion agreement with the Employees Provident Fund (EPF) and later the formal agreement was signed with Airbus officials with the Airbus to be delivered within 2015. The loan with EPF has been signed on 12 percent annual interest rate with maximum 15 years payback period, which means NAC is required to make interest payments on a quarterly basis, which amounts to Rs 1.44 billion annually and a fund be created at a bank recommended by the EPF where NAC deposits 30 percent of its monthly income. The two jets themselves are the

collateral for the loan. NACs land and building where its headquarters is located have also been put up as security.

NAC has currently 2 Airbus A320-200 aircrafts in its commercial operation. The first A320 was delivered on February 6, 2015 and was scheduled to commence commercial operations from as early as February 20th (with its first flight to Delhi). It started its first flight from February 27. On 30 April 2015, Nepal Airlines received its second Airbus A320. The aircraft was filled with 5 tonnes of aid material to be flown from the Airbus factory in Hamburg, to Nepal on delivery of the aircraft. The aid material was used in the relief effort for the April 2015 Nepal earthquake. The first A320 (registration number 9N-AKW) has been named “Sagarmatha”, which is the Nepali name for Mount Everest. The second A320 (registration number 9N-AKX) is named “Lumbini”, after the birthplace of Lord Buddha.



Figure 2.1 : - A320-200

The A320-200 cabin is designed to hold 158(150 in economy and 8 in business class) passengers in total. The aircraft is equipped with two engines manufactured by International Aero Engines. Which can produce 27,000 pounds of force (about 120 kN), which is equivalent to the thrust of CFM International engines used by the rival Boeing 737 Next Generation planes. The Nepal Airlines Airbus A320 has sharklets, which are fuel saving wing tip devices. These wing tips help save fuel up to 4 percent on medium and long haul routes. This not only equates to savings in fuel and money for the airline, but also corresponds to over 900 tonnes in carbon dioxide emission.

The table below present NAC Airbus A320`s Accidents and incidents,

Date	Accidents and incidents
26 Sep 2016	A Nepal Airlines Airbus A320-200, registration 9N-AKX performing flight RA-206 from Delhi (India) to Kathmandu (Nepal) with 154 passengers and 9 crew, was descending

	<p>through 13,000 feet towards Kathmandu when the crew reported smoke in the cockpit. The aircraft continued for a safe landing on Kathmandu's runway 02 about 11 minutes later and stopped on the runway for inspection by emergency services.</p> <p>The airport was closed for about 16 minutes as result.</p>
13 Sep 2016	<p>A Nepal Airlines Airbus A320-200, registration 9N-AKX performing flight RA-206 from Delhi (India) to Kathmandu (Nepal) with 150 passengers and 8 crew, landed on Kathmandu's runway 02 but burst the #2 tyre (inboard left main tyre) during landing, the wheel subsequently separated from the landing gear. Tower alerted the crew to a gear problem, the aircraft slowed safely and stopped on the runway.</p> <p>The aircraft was towed to the apron. The runway was closed for about one hour as result.</p>
11 Sep 2016	<p>A Nepal Airlines Airbus A320-200, registration 9N-AKW performing flight RA-218 from Delhi (India) to Kathmandu (Nepal) with 152 passengers and 8 crew, was climbing out of Delhi's runway 28 when the crew stopped the climb at 4000 feet reporting they had problems with the flaps and could not retract them, the flaps were locked, in addition they had a problem with the autopilot. The aircraft entered a hold for about 20 minutes while the crew was working the related checklists, then positioned for a safe landing on runway 28 at a higher than normal speed (about 160 knots over ground) about 35 minutes after departure.</p> <p>The occurrence aircraft was on the ground in Delhi about 31 hours after landing.</p>
15 Aug 2016	<p>A Nepal Airlines Airbus A320-200, registration 9N-AKW performing flight RA-205 from Kathmandu (Nepal) to Delhi (India) with 143 passengers on board, was descending towards Delhi when the crew received a cargo smoke indication, the cargo fire extinguisher was discharged. The aircraft continued for a safe landing in Delhi, emergency services did not detect any trace of fire, heat or smoke.</p>
7 July 2016	<p>A Nepal Airlines Airbus A320-200, registration 9N-AKX performing flight RA-409 from Kathmandu (Nepal) to Hong Kong (China) with 59 people on board, was in the initial climb</p>

	out of Kathmandu when the right hand engine (V2527) ingested a bird prompting the crew to abort the flight and return to Kathmandu for a safe landing. Aircraft made an emergency landing at Tribhuvan International Airport here after being hit by a bird minutes after take-off.
17 Mar 2016	A Nepal Airlines Airbus A320-200, registration 9N-AKW performing flight RA-206, A bomb hoax in a Kathmandu-bound Nepal Airlines aircraft at the Indira Gandhi International Airport in New Delhi on Thursday afternoon has become a matter of security concern grounding the plane for thorough security check.
12 Jun 2015	Nepal Airlines Airbus A320 flight R402 made an emergency landing after experiencing technical difficulties at the Suvarnabhumi airport, Bangkok. According to our sources the problem was in the indicator.
17 Oct 2015	The fuselage of a Nepal Airlines Airbus A320 registration 9N-AKX was damaged while on the ground, after being hit by a catering truck in Hong Kong International Airport. Flight 410 from Hong Kong to Kathmandu was cancelled, and the aircraft was grounded.
7 Nov 2015	A Nepal Airlines Airbus A320-200, registration 9N-AKX performing flight RA-409 from Kathmandu (Nepal) to Hong Kong (China) with 121 people on board, was climbing out of Kathmandu when the crew stopped the climb at FL220 reporting a strange odour in the cockpit and decided to return to Kathmandu for a safe landing about 50 minutes after departure.

2.3 Xian MA60 and Harbin Y-12

On November 29, 2012, NAC and China's AVIC International Holdings, the aircraft supplier, had signed a commercial agreement for six aircraft. The agreement worth Rs 6.67 billion signed by Chinese government with Nepal. The agreement was signed regarding the procurement of six aircraft-two 56 seat Modern Ark 60 (MA60) and four 19-seat Harbin Y-12 (Y-12e) supposed to serve the domestic aviation market of Nepal. The plan was to MA60 on Biratnagar, Pokhara, Bhairahawa, Nepalgunj and Bhadrapur routes and smaller Y-12 to operate on remote sectors like Lukla, Jomsom, Manang, Simikot, Rara, Jumla and Dolpa with a load restriction, including a number of tourist destinations. Xi'an Aircraft Industrial Corporation, the maker of the MA60 aircraft, and Harbin Aircraft Industry Group, the manufacturer of the Y-12. One MA60 and one 17-

seater Y-12 arrived in Kathmandu on April 27 and November 3, 2014 respectively under this deal. These two aircraft worth Rs 2.94 Billion were provided to Nepal as gifts. Soft loan of Rs 3.72 billion from Export Import Bank of China to NAC to buy one MA60 and three Y-12 planes, repayment period is 20 years at an annual interest rate of 1.5 percent. NAC has been provided a grace period of seven years which mean it doesn't have to start paying back loan till then.



Figure 2.2: - Xian MA60 and Harbin Y-12e

MA60 has been grounded for 75 days, eight times during its first seven months of operation. More than Rs 20 millions has already been spent in the maintenance of this aircraft. The MA60 included four major issues—landing and take-off weight or aircraft performance, high insurance premium, timely delivery of spare parts and cost of spare parts.

1. Under the landing and take-off weight, the aircraft is not capable of carrying passengers at full capacity. For example, the 56-seater aircraft can accommodate 54 passengers from Kathmandu's Tribhuvan International Airport, but during its return from smaller airports like Bhadrapur, it has to cut the passenger number to 34. The problem is mostly seen during summer due to temperature and runway length.

Another Y-12 aircraft also has the weight problem. The aircraft has 200kg excessive weight that has forced NAC to cut the number of passengers by at least three individuals.

2. The second issue is high insurance premium. NAC has been paying 4.7 percent of the aircraft cost in insurance premium, or Rs 250,000 per day. For a brand new aircraft, the insurance charge is normally less than 2 percent.

3. The third issue is untimely delivery of spare parts. "Due to the delay in the

delivery of spare parts from China, Aircraft has to be grounded for several days' even if a small part of aircraft becomes defunct. NAC has proposed a "flight hour agreement" with the aircraft manufacturer to ensure timely delivery of spare parts. "Under the agreement, NAC will pay the spare part costs like insurance premium and the company will deliver the parts."

4. Besides untimely delivery, hefty costs of the spare parts is another matter of concern.

The table below present NAC Xian MA-60`s Accidents and incidents,

Date	Accidents and incidents
30 Jun 2014	A Nepal Airlines Xian MA-60, registration B-831L performing flight RA-103 from Kathmandu to Biratnagar (Nepal) with 52 passengers and 3 crew, was on approach to Biratnagar when a bird impacted the right hand propeller. The crew continued for a safe landing in Biratnagar.

2.4 Boeing 757

The first of Nepal Airlines two 757s arrived in 1987. The jet flew on long-haul routes and displaying the national flag at world airports, they helped Nepal make its presence felt in the international aviation scene. The 757 holds 190 passengers. The Boeing 757 is a mid-sized, narrow-body twin-engine jet airliner built by Boeing Commercial Airplanes. It was in production from 1981 to 2004. Currently there is two 30-year-old Boeing 757s in NAC, one 757-200 (Reg- 9N-ACA) named "Karnali" and another 757-200M (Reg- 9N-ACB) named "Gandaki", a passenger-freighter combi model with a forward cargo door. At present NAC has only 25 pilots for its 757s, and five of them are retiring.

Nepal Airlines Corporation (NAC) is mulling over phasing out its two aged Boeing 757-200 aircraft in a bid to cut down additional expenses brought on by increased fuel consumption, necessary maintenance and spare parts of the jets. As per plan of national flag carrier, it will auction the planes by inviting a global tender. Before doing so, NAC will buy two wide-body Airbus A330 aircraft to replace the Boeings. NAC officials said that as the aircraft were bought almost three decades ago, they are neither fuel-efficient nor economical as the maintenance charge and the price of spare parts are both higher. There are two main issues of NAC's B757,



Figure 2.3: -B757-200 (Reg- 9N-ACA) named “Karnali”

1. Higher maintenance costs-

Both of NAC’s B757 are 30-year old. Commercial aircraft maintenance costs change as aircraft grow older. The biggest issue with aging aircraft is that the repair and replacement of parts increase the cost of owning and operating the aircraft. This hurts in two ways.

One is the increased maintenance costs, which are obvious. A 20-year old aircraft has about 50 - 60% higher maintenance costs than a new aircraft just out of warranty - excluding the engines. The early years when the aircraft are young and warranties are in effect show very low maintenance costs - less than half of what they are at year 5. However, when the aircraft is 30-years old and wear and tear is taking its toll, the maintenance costs are typically more than double what they were at year 5. As with any mechanical device, this makes sense. The increased maintenance (parts and labor) is primarily due to unscheduled maintenance. Much of the unscheduled maintenance occurs as part of the scheduled inspections - i.e. during the scheduled maintenance check an item is found out of tolerance and is repaired, replaced or overhauled. Boeing’s 2004 analysis of commercial aviation aging effects (Boeing, 2004a) is the most direct intellectual forerunner to this topic. Boeing computed a “maturity curve” for airframe maintenance costs. Boeing found airlines’ airframe maintenance costs increase as aircraft come off warranty, then enter a stable “mature” period after the first D check1 (depot-level heavy maintenance), and then resume rising after about 10–14 years of service and the second D check. Each of NAC’s B757 earns about Rs 2 billion annually, and it costs the carrier almost the same in maintenance expenses. NAC has no operating gains.

Increased maintenance leads to the second big problem: decreased availability. Availability is defined as the number of days an aircraft is

available for flight operations divided by the total number of days in the operating year. In other words, if the aircraft is in the shop, it isn't available for flight. Availability drops from a high of 95% for newer aircraft, to an average of 70% at age 25, dropping to no better than 55% at age 30. Looking at it another way, it typically takes two older aircraft to have the same availability as one newer one. Both of NAC's Boeing-757 aircraft has been grounded many times for several days due to technical snags such as cracks in the flaps, two cracks in outlet-guide-vans located at Module-7 engine, technical glitch in circuit breaker while starting its engines.

2. High fuel consumption-

The plane's high fuel consumption is another matter of concern for the state-owned airline. According to officials, the Boeing 757 guzzles 4 tonnes of fuel per hour compared to 2.5 tonnes for new aircraft. A study has concluded that the B757s consume 30 per cent more fuel per passenger in Kathmandu-Bangkok sector compared to Airbus A320-200. A field inspection by Office of the Auditor General (OAG) officials had also found that NAC aircraft consumed 3.8 tonnes of fuel in Kathmandu-Bangkok and Kathmandu-Hong Kong sectors per hour against the standard 3.61 tonnes. In the last fiscal, NAC spent a total of Rs 2.88 billion for aviation fuel and the two Boeings flew for a total of 5,738 hours.

One proposal being put forward by NAC is to use them for cargo since operating cost would be much less than for passenger flights. One of the Boeings is already a Combi model with a forward cargo door. But this solution will not solve Higher maintenance costs nor High fuel consumption. Another issue that can make this worse is limited spare parts availability. There are many cases where due to the limited number of aircraft flying, parts suppliers maintain a very minimal inventory and don't replenish the stock until after they run out. Even with larger fleet numbers, certain components may be manufactured in limited quantities by manufacturers who infrequently open up the production line to make more spares.

The possible solution to this problem is to put B757 for sale one by one and replace with wide-body A330 aircraft. This will short out all the problems explained above and will solve the shortage of pilot for B757. The airline is facing a crippling shortage of pilots. An A330 is appropriate for short to long haul routes and this feature is its basic strength. Airlines can put an aircraft that just returned from a short haul leg (about 3 hours) to a medium haul one (6 to 7 hours) instantly. In future it can fly A330 to Frankfurt, London once European Aviation Agency remove Nepali airlines from its blacklist. NAC has already

decided to move to Airbus so why to operate with Boeing. Operating with both different manufacture company will increase the operational cost. Before Selling off the airline’s two B757s make sure the shady deal by the then Nepali Congress government to dispose of two 727s at below market prices in 1991 amidst widespread allegations of kickbacks will not repeat again and preparing the required manpower at the earliest.

The table below present NAC B757`s Accidents and incidents,

Date	Accidents and incidents
2 May 2014	A Nepal Airlines Boeing 757-200, registration 9N-ACB performing flight RA-416 from Kuala Lumpur (Malaysia) to Kathmandu (Nepal) with 53 people on board, was climbing out of Kuala Lumpur when the crew decided to stop the climb at FL280 and to return to Kuala Lumpur due to vibrations of the right hand engine (RB211). The aircraft landed safely about one hour after departure. The airline confirmed vibrations in the right hand engine. The aircraft had just come out of the C-Check in Singapore.

2.5 de Havilland Canada DHC-6 Twin Otter

Nepal Airlines first acquired a Twin Otter in 1971. The hardy Canadian-built DHC-6 Twin Otter was designed for flying in the challenging environment of countries like Nepal with rough and short airfields carved out of mountain sides. Pilots say the plane handles well, needs minimal maintenance, is built to last, and can take a lot of punishment. Which must be why Twin Otters are affectionately called ‘Land Rovers with wings’.



Figure 2.4: - de Havilland Canada DHC-6 Twin Otter

The state-owned airline has owned 12 Twin Otters in the last 43 years, of which two are airworthy today serving to different domestic destinations. Among two, one of them are grounded most of time due to some technical problem. Of the other that haven't crashed, has been leased to Tara Air and is a source to Airlines revenue.

The table below present NAC Twin Otter`s Accidents and incidents,

Date	Accidents and incidents
11 Apr 2016	A Nepal Airlines Corporation de Havilland DHC-6-300 Twin Otter, registration 9N-ABU performing flight RA-718 from Jumla to Nepalgunj (Nepal) with 16 people on board, was taxiing for departure backtracking departure runway 27 when upon turning around to line up for departure the crew noticed the nose wheel steering was malfunctioning and stopped the aircraft. A snapped nose wheel steering cable was found. The flight was cancelled, technicians were dispatched to Jumla to repair the aircraft.
7 Mar 2014	A Nepal Airlines de Havilland DHC-6-300 Twin Otter, registration 9N-ABU performing flight RA-135 from Kathmandu to Lamidanda (Nepal) with 15 passengers and 3 crew, was in the initial climb out of Kathmandu's runway 20 when at about 100 feet AGL the right hand engine emitted repeated bangs and streaks of flame. The crew immediately rejected the takeoff and landed the aircraft back on the remaining runway ahead. The flight was cancelled, the only remaining Twin Otter of Nepal Airlines is going to undergo an engine change. The airline reported the engine, which had accumulated 250 flight hours, experienced compressor stalls.
16 Feb 2014	A Nepal Airlines De Havilland Canada DHC-6 Twin Otter (9N-ABB) on flight 183 went missing en route to Jumla carrying 18 people aboard. It was later confirmed that the plane had crashed in Argakhachi.
16.May 2013	A Nepal Airlines De Havilland Canada DHC-6 Twin Otter 300 (9N-ABO) on flight RA-555 from Pokhara (PKR) to Jomsom (JMO) veered left off of the runway after touching down at Jomsom and went down the slope to the Kaligandaki river. The aircraft stopped at the bank of the river, with the left wing in the water. Three crew and four passengers received serious injuries, and 15 passengers received minor or no injuries. The aircraft was damaged beyond repair.

19 Apr 2010	A Nepal Airlines De Havilland Canada DHC-6 Twin Otter 300 (9N-ABX) on a flight from Kathmandu (KTM) to Phaplu Airport (PPL) (with Kangel Danda as designated alternate airport). The aircraft was unable to land at Phaplu due to poor weather. The crew decided to divert to their alternate airport at Kangel Danda. The airplane touched down on its nose gear first and suffered some minor damage to the nose section.
27 July 2000	NAC De Havilland Canada DHC-6 Twin Otter 300 (9N-ABP), on a flight from Bajhang to Dhangadhi, collided with trees on the 4,300 feet Jarayakhali hill on the Churia mountain range before catching fire. All 3 crew and 22 passengers were killed.
17 Jan 1995	NAC De Havilland Canada DHC-6 Twin Otter 300 (9N-ABI), flight RA133 from Kathmandu to Rumjatar, had problems getting airborne at Tribhuvan International Airport, struck the airfield perimeter fence and plunged into fields. Of three crew and 21 passengers, one crew member and one passenger were killed.
5 July 1992	NAC De Havilland Canada DHC-6 Twin Otter 300 (9N-ABB), lost directional control on takeoff from Jumla Airport on a flight to Surkhet. The aircraft ran off the runway and struck the airport perimeter fence. None of the three crew were injured and there were no passengers on board.
9 June 1991	NAC De Havilland Canada DHC-6 Twin Otter 300 (9N-ABA), after a flight from Kathmandu, crashed on landing at Lukla Airport following an unstabilized approach in bad weather. All three crew and 14 passengers were killed.
22 Dec 1984	NAC De Havilland Canada DHC-6 Twin Otter 300 (9N-ABH) crashed off course near Bhojpur, Nepal. Bad weather and pilot error could have been the cause. All three crew were killed as well as 12 of the 20 passengers.
15 Oct 1973	NAC De Havilland Canada DHC-6 Twin Otter 300 (9N-ABG) was damaged beyond repair at Lukla Airport; the three crew and three passengers were unhurt.

3. SWOT analysis

A SWOT analysis always determines the major strengths and weakness of the company. An airline might have various challenges and opportunities too. For a competitive market in Nepal, Nepal Airlines has to know its own position and strategy to challenge and remain competitive in the market. SWOT can be vital in making strategic decisions by generating strategic options and future course of action (Johnson et.al, 2008). This also allows the manager or the Board to

form new strategy using various tools and techniques. By exploring the internal and external environment it can be successful in reaching its goals and objectives. This SWOT analysis of Nepal Airlines Corporation can provide a competitive advantage.

3.1. Strengths

- ⇒ Nepal Airline is a national flag carrier of Nepal so it has the strong backing of Nepal Government and the financial support from the government.
- ⇒ It has both domestic and international operation.
- ⇒ More Nepali workers are emigrant to Arab countries so Nepal Airlines can serve as a good communication during the journey.
- ⇒ The Airline itself has a strong brand representing Nepal.
- ⇒ Reduced labor costs.
- ⇒ Experienced business units.

3.2. Weaknesses

Weakness are the major factor for any industry. For a struggling airline like Nepal Airline, weakness can be very expensive and dangerous.

⇒ Lack of Aircraft

Lack of aircraft to operate in the international and domestic sector is the main reason behind the NAC facing crisis. The national career, in its heydays, used to fly to Amsterdam, Colombo, Dhaka, Frankfurt, Karachi, London, Osaka, Paris, Shanghai, Singapore and Vienna, besides five Indian Cities-Bengaluru, Delhi, Kolkata, Mumbai and Patna. It presently connects Kathmandu with Dubai, Doha, Kuala Lumpur, Hong Kong, Bangkok and three cities in India-Mumbai, Delhi and Bengaluru.

Currently NAC has two 757, Two A320 which operate to international destination. Other aircrafts two Twin otter, one MA60 and Y-12 for domestic destination which are grounded most of the time.

The 232 million Nepalese migrants worldwide (Data fetched from-Labor Migration for Employment A Status Report for Nepal: 2013/2014) have to use the airlines of other countries to come home. While some other Airlines has 21 flights a week to Kathmandu. There are total 27 airlines currently coming to Nepal. Some of International Carrier's Flight Status (August 2016) are mentioned below in table.

Sn. No.	Country	Airlines	Sector	Flt/week
1	India	Air India	Delhi-Kathmandu-Delhi	11
			Kolkata-Kathmandu-Kolkata	4

		Jet Airways	Delhi-Kathmandu-Delhi	14
			Mumbai-Kathmandu-Mumbai	7
		Indigo Airlines	Delhi-Kathmandu-Delhi	7
		Spice Jet	Delhi-Kathmandu-Delhi	14
2	China	Air china	Chengdu-Kathmandu-Chengdu	4
			Lhasa-Kathmandu-Lhasa	5
		China Southern Airlines	Guangzhou-Kathmandu-Guangzhou	3
		China Eastern Airlines	Kunming-Kathmandu-Kunming	3
3	Malaysia	Malaysia Airlines	Kuala Lumpur -Kathmandu- Kuala Lumpur	7
		Air Asia	Kuala Lumpur-Kathmandu- Kuala Lumpur	4
		Malindo Air	Kuala Lumpur-Kathmandu- Kuala Lumpur	7
4	Qatar	Qatar Airways	Doha-Kathmandu-Doha	17
5	UAE	Air Arabia	Sharjah-Kathmandu-Sharjah	21
		Etihad Airways	Abu Dhabi-Kathmandu- Abu Dhabi	7
		Fly Dubai	Dubai-Kathmandu-Dubai	21

The total number of international air passengers arriving and taking off from Tribhuvan International Airport (TIA) increased by 12.73 percent over the first 10 months of 2014. According to the data of TIA, a total of 2.88 million air passengers flew to different international destinations from January to October, up from 2.55 million in the same period of 2013. Increment in number of international air passengers has been attributed to rise in tourist arrivals to the country and surge in number of Nepali migrant workers leaving for different international job markets. The data shows that number of foreign tourists visiting the country is increasing. In landlocked country like Nepal, Air Transportation plays a vital role to bring an effective change in people's daily life. Undoubtedly

the sustainable development of air transportation directly relates to the national development. Air transportation provides the only worldwide transportation network, which makes it essential for global business and tourism. Hence NAC should increase the fleet size and start its operation to different international and domestic destination. Adding more aircraft to its fleet size will increase its availability as well as punctuality. The current destination of NAC as 23rd August 2016 has shown below in table,

Airlines	Sector	Flt/week	Duration
Nepal Airlines	Kathmandu-Delhi-Kathmandu	11	1h 45m
	Kathmandu-Bangalore-Kathmandu	3	3h 0m
	Kathmandu-Bombay-Kathmandu	3	2h 50m
	Kathmandu-Dubai-Kathmandu	3	4h 45m
	Kathmandu-Doha-Kathmandu	4	4h 55m
	Kathmandu-Kuala Lumpur-Kathmandu	3	4h 40m
	Kathmandu-Hong Kong-Kathmandu	4	4h 30m
	Kathmandu-Bangkok-Kathmandu	3	3h 25m

⇒ **Mismanagement**

Mismanagement has hit the NAC hard for long. According to sources, all departments at the NAC has poor management and lack of coordination, as well lack of good relationship with staff and workers. These poor activity has demoralized the staff members. Chronic mismanagement has hobbled the airline’s ability to reinvent itself, proving once more that internal efficiency is more important than fleet expansion. There are different examples depicting weaknesses of the NAC management.,

1. Although Nepal Airlines is a small airline with limited number of aircraft, it has five different types of aircraft in its fleet. The challenge before Nepal Airlines now is to operate these different types of aircraft. Nepal Airlines currently has Chinese Y 12 type, MI 60, Twin Otter, Airbus, and Boeing. According to the present guidelines of the Civil Aviation Authority of

Nepal, a single fleet system needs three sets of pilots, that include three captains and three copilots for each aircraft. Facing the scarcity of pilots, Nepal Airlines will need to spend a huge amount of money for running the five different fleets. The ageing Boeing 757 and Chinese Aircraft are likely to increase the operations cost. The management seems to have decided to ditch Boeing for Airbus. Now that the decision has been taken.

2. Series of mysterious disappearances of aircraft parts belonging to NAC at the airport in capital Kathmandu. In 2011, NAC has lost a fly away kit (cost around Rs. 45 million) which has to be always on board, spare wheels of its Boeing 757 and two main landing gears of its Twin Otter DHC-6 disappeared from the customs office in less than a year. The equipment is estimated to be worth 150 million Nepali rupees (some 1.9 million U.S. dollars).
3. In 2011, Fake appointment given to 23 Indian nationals, who paid Rs. 200,000 each thinking they were being offered attractive jobs. were hoodwinked by an online advertisement that said Nepal Airlines, Nepal's national carrier, was looking for technicians for maintenance work and was ready to offer a monthly pay of Rs. 22,500 as well as free food and accommodation.
4. There is a strong lobby defaming the newly introduced two Chinese aircrafts. This lobby is creating propaganda that the Chinese aircrafts are not suitable for the Nepali sky. The fact is that before bringing the aircraft, a team led by Suresh Acharya, joint secretary of the Tourism Ministry, and includes two engineers and a pilot from NAC and a representative from the Civil Aviation Authority of Nepal went china to carried out all the tests including the test flights. After arrival of the aircrafts, NAC has raised different issues and saying that the Airlines has not been able to earn the amount even to pay the insurance bill. Before bringing the aircraft the team could have done analysis about aircraft performance and most important cost of spare parts.
5. On February 25, 2015 the inaugural flight to Delhi had to be abruptly called off one day before as the navigation and airport database of Delhi Airport had not been installed on the aircraft.
6. NAC had to ground its brand new Airbus A320 on Mar 9, 2015 evening, just 10 days after starting operations for lack of an oil filter, due to the management's 'negligence' and lack of long term planning. According to the Airbus safety check-list, the oil filter of the aircraft needs to be changed after 100 flying hours. The NAC latest planned flights were cancelled as

it needed to change the oil filters in regular intervals. Since it did not keep this spare part in stock.

7. On April 18, 2015 NAC's A320 had flown to Indira Gandhi International Airport of New Delhi and while returning to Tribhuvan International Airport (TIA) from Delhi, the Distance Measuring Equipment (DME) of aircraft halted working which made the aircraft grounded since Friday. It was reported that due to absence of Minimum Equipment List (MEL) update, DME of airbus is not possible to repair on time. If they had list update, it would be easier for them to repair DME on time. On the regular checklist of A320, nothing related to DME has been mentioned. The quality control section under the NAC's engineering department is responsible for that. The plane has been grounded with the section not updating the MEL system that it had to update immediately after arrival of the plane.

These above events and the missing spare part and resultant grounding of the new Airbus is evidence of the typical mismanagement at NAC. The key weakness of NAC management group is as follow,

- Lack of coordination among NAC departments
- Less responsibility towards their job and role
- Lack of long term-planning
- Poor handling of resource
- Poor employee relations

⇒ **Political interference and corruption**

High political interference, political instability and corruption is one reason behind the degradation of NAC that used to be considered one of the best in South Asia. The slide began soon after the restoration of democracy in 1990 as politicians interfered with management for kickbacks and patronage. The then prime minister Girija Prasad Koirala made the Airlines as money making machine for himself as well as for the party. He disposed a flying-conditioned Boeing 727 aircraft. Instead of giving government guarantee to acquire brand new aircrafts, he gave the instruction to lease aircrafts for a short period under the influence of the commission agents. The tragedy is that NAC have learnt nothing from the mistakes of the 1990s that led to the deterioration of the airline. Resignation of Nepal Airlines Corporation (NAC) Managing Director Madan Kharel on Mar 16, 2015 shows that these sorts of interventions aren't over yet. It is reported that the political interest of ministers and a growing power tussle

with his chairman Shiva Sharan Neupane was the major reason behind this. Mr. Madan Kharel was appointed to the post of NAC managing director through open competition in December 2012. Mr. Shiva Sharan Neupane was a political appointee and close relative to former UML chairman Jhalanath Khanal. As the chairman had been given the role of taking decisions on every proposal tabled by the management, there had been a tug-of-war between the managing director and the chairman every time the agendas were presented. It should be noted that the Chairman at NAC is directly appointed by the government and such appointments are based on vested political interest of the ruling parties and their ministers.

In 2015, NAC announced openings on 4-6 level job positions for different 148 placements. According to source, these positions were filled by staff's close relatives, members of parliament recommended personnel. Previously, Culture, Tourism and Civil Aviation Minister Kripasur Sherpa pressured NAC to appoint 30 of his men.

Besides that, the Employee union politics doesn't seem to have a positive impact on the growth of Airlines as well. Most of its employees being affiliated to one of the political unions of major parties; they seem to be more loyal to the interest of their leaders rather than the airline itself. Its heard that the rivaling between the employees of different affiliated unions to be totally uncooperative towards one another. The situation is worse as the majority of staffs are permanent ones, involved with political unions and there is no proper chain of command within the management structure.

Recently A government fact-finding committee had found that the MA60's utilization was very poor in Nepal. MA 60 was bleeding the NAC's finances since its arrival at Tribhuvan International Airport in April 2014, plane flies not even for a week in a month. The Y12e has been grounded for the last two months due to a shortage of pilots. It has still not been cleared for mountain airfields due to regulatory restrictions. Ignoring NAC's protest, The Tourism Ministry submitted the proposal with NAC's conditions to the Cabinet for its go-ahead to continue with the aircraft procurement process. The government plans to conclude the purchase before then Prime Minister KP Sharma Oli's planned visit to China.

NAC has involved in different corruption case for Aircraft sale and lease. Today, the pickings have become so slim and the greed so insatiable that politicians and their appointees in the airline try to cheat even on aircraft maintenance, engine maintenance contracts and other purchases. There The list of scandals is long, but the most controversial scandals are listed out below in table.

Date	Scam	Remarks	loss
1995	Dhamija Scandal	Appointment of Dinesh Dhamija—	Rs. 400 millions

		managing director of British company Fair Limited as the new General Sales Agent for the European sector.	
1997	Chase Air Scandal	Leasing an aircraft	Rs. 90 millions
1999	China Southwest Scandal		Rs. 220 millions
2000	Lauda Air scam		Rs. 2 billions

In December 2010, The Commission for the Investigation of Abuse of Authority (CIAA) filed a corruption case against six high-ranking officials of NAC, including executive chairman Sugat Ratna Kansakar at Special Court, accusing them of misusing Rs 57.3 million while sending lock-up money to aircraft manufacturer Airbus. Mr. Sugat Ratna Kansakar was sent to jail after he failed to submit a bail amount of Rs. 60 million. However, the special court on April 2011 acquitted Mr. Sugat Ratna Kansakar. Recently, on November 2014 CIAA has charged case against the then Director of Engineering Department Achyut R. Pahadi alleging him embezzling Rs. 2 million while purchasing tyres for NAC. the finance of Airlines should be strictly monitored and measures should be taken to end corruption. All of the NAC's financial activities should be made transparent and should be done through free biddings.

In a country like Nepal we cannot see any organization without political influences. It is an open secret that every issue has political interferences, in Nepal. The political situation in a country may influence the minds of the air travelers too. The unstable political conditions in Nepal, creating an ambiguity in the minds of the passengers, travelling to Nepal. It affects NAC, indirectly. NAC should be as soon as possible freed from political interventions and nominations. The management should be left independent on its own and within the organization rather than appointing chairman politically. The conflict on division of power and authority between the chairman and Managing Director should be resolved as soon as possible.

- ⇒ Lack of export and skilled manpower.
- ⇒ Poor aircraft maintenance.

- ⇒ Technical and mechanical issues are also costing the airline and time to time it has to ground planes due to faulty parts, mechanical fault and not enough engineering checks.
- ⇒ The Airlines has poor communication system in its operation and time to time the passengers are being overcharged or delayed in flights.
- ⇒ Declines in the profits and poor utilization of capacity.
- ⇒ Bad reputation in terms of in-flight services.
- ⇒ Lack of clarity in the efficient usage of resources.

3.3. Opportunities

Opportunities are great occasion in expanding the business and increase the market share. Nepal is also a growing aviation market. Most passengers are Nepali workers immigrating to Arabian countries for work. There has been high demand of tickets and flights every day.

- ⇒ NAC has good opportunity to add more planes and increase the market share.
- ⇒ The income level of Nepali people is rising so people can afford travelling through planes.
- ⇒ The number of European foreigners visiting Nepal is rising so Nepal Airlines can connect European cities and attract new customers.
- ⇒ It also has opportunities to link up with other major Asian Airline companies to increase the profit.

3.4. Threats

Although NAC is a national carrier of Nepal but it also has its threats. Due to poor safety conditions of Aviation in Nepal, NAC has been banned by the European Aviation Authority (Europa, 2014).

- ⇒ Nepal airlines also face difficulty in maintaining its balance of books due to more operational costs and staff costs.
- ⇒ Unstable government is a major threat for NAC as new government is not compatible and changes are more likely.
- ⇒ New increase in the domestic market is also a major threat as NAC do not have enough planes to connect cities inside Nepal.
- ⇒ External business risks.
- ⇒ Increasing rates of interest.
- ⇒ Growing competition and lower profitability.
- ⇒ Price changes.
- ⇒ Financial capacity.
- ⇒ Technological problems.

4. Conclusion

The dynamism of the airline industry requires continual strategic competitiveness to build competitive advantage. This highly sensitive industry is faced by the challenge of product innovation by suppliers, fragile reputation that can be tarnished “overnight”, powerful customers, aggressive competitors from strategic alliances & bankruptcy protection and increased costs of labour, fuel and security measures. Yang (2007) states that with all the efforts airlines make to overcome the numerous challenges they make, they have realized they have to change their way of business and start providing proactive services by stepping closer to customers and studying their needs. The success of a carrier will be determined by not only by how much they are able to strategically respond to these challenges but by how fast they respond to these constantly changing forces. Focusing on a single factor may not be the key issue to making more revenue (Yang, 2007). Wirtz et al (2012) states that the success of Singapore airlines is attributed to the effective alignment of functional strategies like HR, marketing or operations with business level strategy like differentiation. The study concludes that for excellence in airlines they have to focus on : structure, culture, strategic alliances, planning and forecasting, technology, marketing and branding and outsourcing.

