

# Launching Low-Cost Long-Haul Operations

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**Abstract**—The existing academic literature is inconclusive about the characteristics and viability of the long-haul low-cost airline business model, whereas several airlines of this type are emerging. While many industries have reached a point of maturation, the airline industry is still evolving to incorporate flexible strategies for business models that adapt to the changing economic environment. New business opportunities have emerged as a result of a variety of internal and external forces and have raised questions about the feasibility of this model in the long run.

This research paper aims to help understand the dynamics of the low cost airline model and study the factors which may make launching this new service possible to implement in the emerging long haul market in India. Increasingly airlines, specially in the South East Asia have experimented and some have even successfully adopted the low-cost model on long haul routes. It would be interesting to understand the differences in their strategy, examining the core differences in styles of functioning and pricing models in comparison to the Full Service Legacy carriers (FSLC). It also assesses, drawing from the experiences of a number of markets, whether the model in itself is likely to be enduring, or whether it is simply a transit way for some airlines to recover their full costs. (1)

## I. INTRODUCTION

While LCCs are still a relatively young force they have massively disrupted air travel and the way all airlines now think about serving the public. With a nimble strategy offering point to point connectivity, industry innovations, ancillary focused activities and modern digitalization and technological practices, they have become the new ‘normal’ in the industry, causing major headaches for the full-service carriers on short haul markets. Whether low-cost carriers will create a similar transformative effect in the long-haul sector remains to be seen. No less than 19 LCCs have launched wide body services in the last six years, while further disruption is on the cards in the long-haul narrow body space. The new generation single aisle Boeing 737 MAX and Airbus A320neo aircraft

families have brought long, thin routes into the realm of operational and financial viability for LCCs, in turn stimulating new traffic between secondary city pairs and allowing passengers to bypass traditional hubs. Yet the low-cost long-haul model doesn’t have the same inherent cost advantages as the short haul model, which potentially narrows the cost gap between LCCs and FSCs, and growth has come at the expense of profits for many LHLCCs. The prospects for independent low-cost long-haul carriers aren’t particularly promising either; it’s rare for secondary point to point markets to be large enough to operate sustainably without additional feed. Still, low-cost long-haul airline growth shows no signs of abating. As the average passenger profile moves towards the price sensitive end of the spectrum, outstripping growth in premium markets, it becomes harder for higher cost airlines to sustain previous expansion rates without deploying radical strategies to address the low-cost long-haul onslaught.

- Can the economics that make short haul low cost viable translate to the long-haul sector?
- How crucial is fuel efficient aircraft in making low cost long haul sustainable?
- Does the viability of the low-cost long-haul model depend on continued downward pressure on fuel prices? What happens when this high-proportion input cost (inevitably) rises?
- Can independent low-cost long-haul carriers operate sustainably without short haul feed from a sister carrier?
- Do LCCs need to change their product and pricing structure to operate in the long-haul market?
- As the two models continue to adopt features of the other, will there be any true distinction between a pure full-service carrier and a pure LCC?

## II. THE LOW-COST MODEL

When you consider the most disruptive changes to have affected specific industries in the last 40 years it's hard to think of many that have had more impact than the low-cost business model has in the airline industry. The low-cost airline model (often called the "no-frills" model in Europe because they offer only basic services to their customers) has been the subject of intense interest and study. (2)

Low-cost airlines have proliferated and thrived since Southwest Airlines first pioneered the model from its incorporation back in 1967. The same airline is a great

example of the impact the model has had on the industry as Southwest is now the largest airline in the domestic US market serving over 100 million customers each year. The essence of the low-cost business model is to get customers from A to B, on time and for the lowest possible cost. Naturally, low-cost airlines have had the ability to structure their businesses with the benefit of hindsight and one result has been their reluctance to adopt the hub and spoke network model, instead preferring to operate short-haul point-to-point routes. This approach keeps cost and complexity low, which is paramount to the competitive power of LCC's.

- **Primarily point-to-point operations.**
- **Serving short-haul routes, often to/from regional or secondary airports.**
- **A strong focus on price sensitive traffic, mostly leisure passengers.**
- **Typically one service class only, with no (or limited) customer loyalty programmes.**
- **Limited passenger services, with additional charges for some services (e.g. on-board catering).**
- **Low average fares, with a strong focus on price competition.**
- **Different fares offered, related to aircraft load factors and/or length of time before departure.**
- **A very high proportion of bookings made through the Internet.**
- **High aircraft utilisation rates, with short turnaround times between operations.**
- **A fleet consisting of just one or two types of aircraft.**
- **Private-sector companies.**
- **A simple management and overhead structure with a lean strategic decision-making process.**

*Source: Airline Cost Performance, IATA Economics Briefing No.5, July 2006*

### 2.1 Optional add-ons

Low-cost players also pioneered the introduction of ancillary services such as extra legroom or priority boarding, which can be purchased optionally by their customers. Research shows that for some LCCs these ancillary products represent as much as a third of all revenue and certainly 100% of all profit margins in many cases. Some traditional airlines have responded by lowering base fares and also offering ancillary services as a means to compete. As LCCs have grown and consumers have enjoyed the benefits of low-cost

air travel, their success has been founded on leisure travel – often creating new demand from segments of the population that could not previously afford to fly. Today, though we are witnessing perhaps the most interesting period of change in the low-cost business model yet, in many geographic markets, especially in Europe and North America, where LCCs were first to develop, we can see a maturing of the low-cost leisure market. Effectively, LCCs are now serving this new demand and have wrestled market share from full-service carriers on short-haul routes. The question now

is, how do LCCs continue to grow? And what is the next phase of business model innovation?

### 2.2 Adapting for the business travel market – Going Hybrid?

A distinct opportunity now presents itself – the business travel market. Business travel is a largely untapped market, for LCCs which they have traditionally ignored. Many saw business travel as the preserve of the full-service airlines, which offer a more comprehensive product, flexibility and participate in the GDS which is the preferred booking method for travel management firms that organize the vast bulk of business travel. Today though some LCCs are evolving with their sights set firmly on this market for those that can succeed the prize is huge. Global business travel will be worth an estimated \$1 trillion this year according to the Business Travel Coalition and business travel bookings offer significantly higher yield than leisure. As Carolyn McCall, EasyJet's CEO described recently, business travelers tend to book later (and therefore at higher fares) and they are far more likely to take additional ancillary services like the flexibility to change tickets or priority boarding. In short, serving business travelers offers the chance for greater profitability. (3)

### 2.3 Low Cost Long Haul – New Life to an Old Concept

The low-cost airlines have expanded markets wherever they have gained foothold. Although the low cost (LC) business model is not an easy beast to tame, with high failure rates across the board (Gudmundsson, 1998), in every region of the world, there are success stories that indicate underlying sustainable strategies that can be mastered. Although the twists and bends to the gold standard LC model are adopted with greater or lesser success, starting a long-haul subsidiary, adding long-haul flights into the network of the traditional LCs, or starting a low-cost long-haul airline (LCLH) from scratch, has had few success stories, posing an interesting enigma in airline strategy. In other words, beyond deep pockets, how can the LCLH model be fine-tuned for better performance?

There are researchers that have asked this question and identified aspects of the LC business model that are transferrable to LCLH operations, and those that do not transfer so readily (Moreira, O'Connell and Williams, 2011). However, this body of work has not offered clear-cut answers, but rather greatly expands

the number of questions surrounding this intriguing strategic problem. (4)

## III. THE INDIGO STORY – AN ANALYSIS OF THE ORGANIZATION

### 3.1 History in the making

Aviation has always been a thorny industry, one as is said only half in jest that makes millionaires out of billionaires, but Indian aviation has stood out as notoriously brutal owing to high taxes and costly airport charges. The year to March 2013 also happened to be the worst in recent years due to a steep increase in fuel prices and weakening rupee. Amidst all these turmoil's Indigo emerged as India's largest airline by passengers carried, reported a profit of Rs 787 Crore in the 2013 financial year. It stunned many in a manner unusual for an earnings broadcast. During the year, Kingfisher Airlines shut shop and IndiGo's competitors made losses of more than \$1 billion. However, IndiGo emerged unaffected from the wreckage.

IndiGo was set up in early 2006 by Rakesh Gangwal and Rahul Bhatia of InterGlobe Enterprises, with InterGlobe as the parent company holding 51.12 per cent of the stake while Rakesh Gangwal's Caelum Investments, a Virginia, and US based Company hold 48 per cent. IndiGo's growth was driven by growing demand for the product it delivered so well: reliable Low-Cost Travel. Many reasons are trotted out for the success but there are some moves that IndiGo has played just right. One of the chief reasons for IndiGo's success is its sharp focus – "on-time performance, clean, neat aircraft, and good service". IndiGo started life as a low-cost carrier and has stayed there firmly, sticking to its business model even in the worst economic crises, a move that has paid off brilliantly. Paid-for on-board meals, a single flying class with no-frills service, high aircraft utilization, and optimal use of space are just some of the cost control methods that IndiGo uses. The latest numbers, revealed by IndiGo burnished the airline's reputation as the lone Indian carrier to prosper in a troubled industry. (5)

India's largest low-cost carrier, IndiGo signed a Memorandum of Understanding for 180 eco-efficient Airbus A320 aircraft of which 150 will be A320neo's and 30 will be A320s. It is the largest single firm order number for large jets in commercial aviation history, and also making IndiGo a launch customer for the

A320neo. The A320neo, available since 2016, incorporates new more efficient engines and large wing tip devices called Sharklets, delivering significant fuel savings of up to 15 percent, which represents up to 3,600 tonnes of CO<sub>2</sub> annually per aircraft. In addition, the A320neo provides a double-digit reduction in NO<sub>x</sub> emissions and reduced engine noise. “This order for industry leading fuel-efficient aircraft will allow IndiGo to continue to offer low fares,” said Rakesh Gangwal and Rahul Bhatia, co-founders of IndiGo. “Ordering more A320s was the natural choice to meet India’s growing flying needs. The opportunity to reduce costs and to further improve our environmental performance through the A320 neo was key to our decision.”

IndiGo is not only the most efficient low fare operator domestically but is also comparable with global low-cost airlines. We are constantly enhancing our engagement with our passengers to augment their travel experience. From multichannel direct sales (including online flight booking, call centers and airport counters), to online flight status checking, an exclusive indigo app for Android, we have transformed air travel in India. Today, it is India’s most preferred airline. At IndiGo, low fares come with high quality. As of November, 2018, IndiGo is India’s largest passenger airline with a market share of 43%. They primarily operate in India’s domestic air travel market as a low-cost carrier with focus on our three pillars – offering *low fares*, being *on-time* and delivering a *courteous and hassle-free* experience. IndiGo has become synonymous with being on-time. Since its inception in August 2006, it has grown from a being a carrier with one plane to a fleet of 207 aircraft today. A uniform fleet for each type of operation, high operational reliability and an award-winning service make it one of the most reliable airlines in the world. It currently operates flights to 66 destinations – 51 domestic and 15 international. (6)

However, in the past few quarters, Indigo’s performance has been far from top notch. It has beaten consensus profit estimates on the Bloomberg only in two quarters in the past seven three-month periods. Analysts say IndiGo is unable to translate its strengths — dominant market share, a light balance sheet and cost efficiency—into superior performance on key operational variables. Two key parameters — revenues and cost — reveal the operational challenges

for the local aviation market leader. Analysts have also expressed their concern that considering the dominant market share of the airline, it should dictate yields in the industry instead of succumbing to the pressure from competition. Furthermore, analysts have raised concerns over the airline’s plans to move partially from acquiring aircraft entirely on the sale and leaseback model to outright purchase. The airline’s sale-and-leaseback model has been one of the key strengths, helping it earn premium multiples. On costs, analysts point out that IndiGo has been unable to rein in expenses. Its cost per available seat kilometres (CASK, ex-fuel)—a parameter which captures how efficiently an airline manages its costs—increased significantly. Also, its interest expense has risen by 41 per cent in the June quarter of 2018.

### 3.2 BUILDING HIGH PERFORMANCE RELATIONSHIPS – Lessons from Southwest Airlines

Organizations with strong relationships have a competitive advantage through their ability to achieve higher quality at lower operating costs by achieving faster cycle times and by providing a more coherent interface to customers. Such organizations can change the nature of competition in an industry by pushing out the efficiency/quality frontier, rather than simply making efficiency/quality trade-offs along an existing boundary. (9)

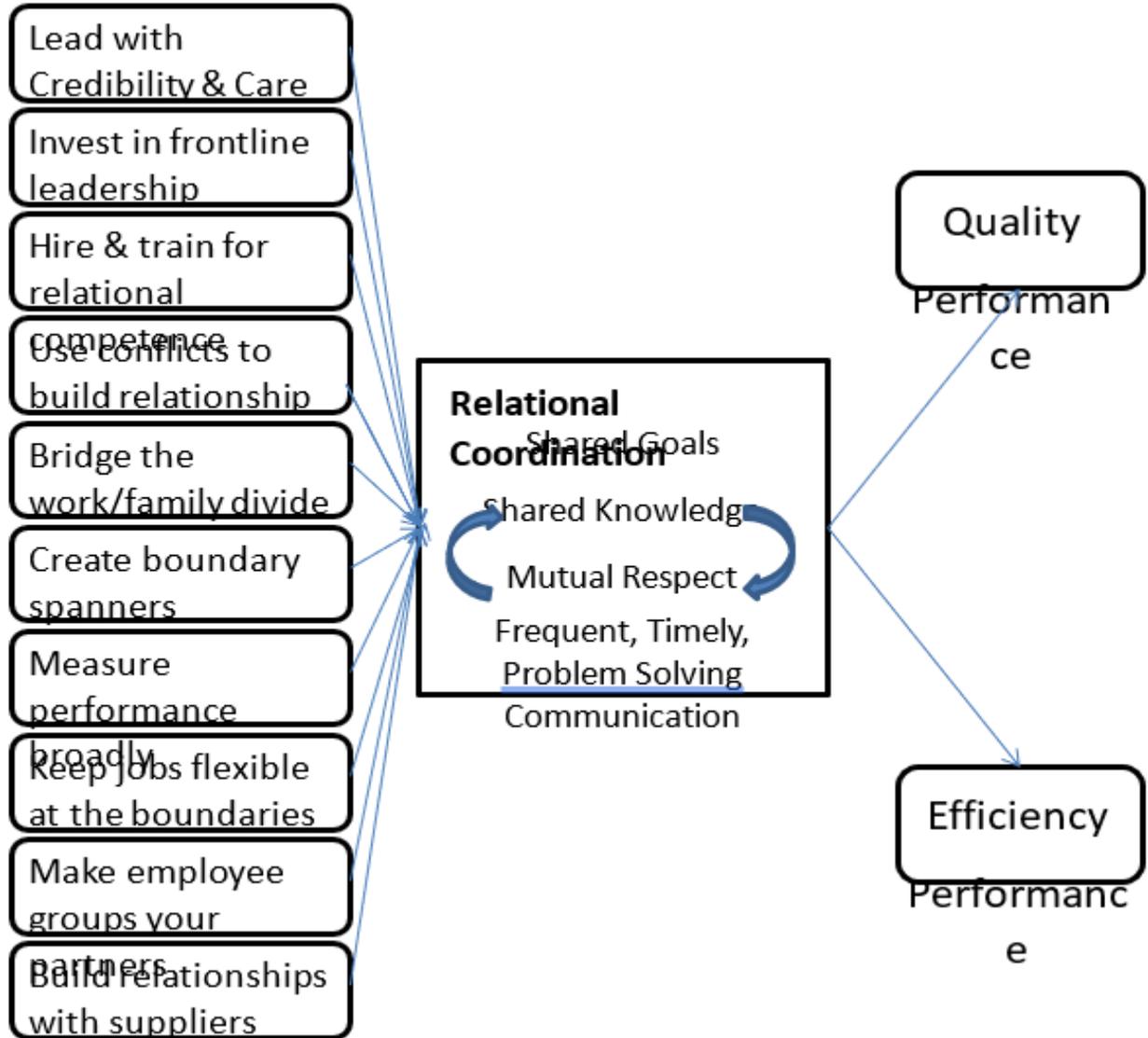
The airline industry has a tradition of strong functional boundaries and status differences across employee groups involved in the departure process, making coordination difficult to achieve. However, coordination seems to be a source of competitive advantage for IndiGo, helping it to deliver inexpensive on-time service with a speedy turn around that keeps costs low. Its relationship focusses, commitment and passion for shared goals, shared knowledge, and mutual respect, along with frequent, timely, problem-solving communication form a powerful force called relational coordination which is a critical factor for its success.

IndiGo was set up adopting lessons and best practices from Southwest Airlines. An innovative set of organizational practices, each one designed to reinforce the others so that the total is greater than the sum of the parts. These practices have built and sustained relationships in multiple ways – through leadership at the top and at the front line, through

hiring and training, resolving conflicts, managing work/family issues, creating special boundary roles, measuring performance broadly, negotiating flexible job descriptions, and partnering with external parties have helped achieve high performance.

Whether these relationships are conceived as social capital, teamwork, or relational coordination, the

common thread is that they are critical for achieving high performance. The guiding principle behind these organizational practices is that they need to build and sustain relationships among the organization's key participants.



Source: *The Southwest Airlines Way*, Jody Hoffer Gittel, Part 2, Pg 55.

1. *Leading with Credibility & Care* – What successful organizations need from their leaders is credibility – the ability to inspire trust; and caring – the ability to inspire a belief by employees that their leaders deeply care about their well-being. Aditya Ghosh, the then President of IndiGo had often been described as a charismatic leader who

provided employees with a sense of mission that connected to their own values, ideals and aspirations.

2. *Investing in Frontline Leadership* – Higher levels of supervisory staff at IndiGo in all frontline departments gives supervisors fewer direct reports, enabling them to engage in more frequent

and intensive interactions with their direct reports. (10) A large number of supervisors help encourage, guide and give structure to people improving customer service standards.

3. *Hire & Train for Relational Competence* - All processes in IndiGo related to hiring, training new hires, promoting from within help it achieve higher levels of relational coordination. Airline jobs require not only functional expertise but also relational competence – the ability to work with others to accomplish a common goal. IndiGo recognizing the importance relational competence looks diligently for employees who seem willing to be adaptive of this culture of mutual respect.
4. *Using Conflicts to Build Relationships* – Conflicts are a fact of life in any highly dependent work process that spans multiple functions (11) like quick turn a round of an aircraft. Conflicts in IndiGo are seen as occasions for learning about the others process and developing a clear understanding of the goals, expectations and behaviors through inter-departmental meets and joint Crew Resource Management (CRM) sessions. It helps not only strengthening the employee relationships but also boosts performance of work processes.
5. *Bridging the Work/family Divide* – People at IndiGo care about one another’s families, recognize deaths, births or special occasions. It is commonly said – “You are never alone at IndiGo”. Provision of flexibility with scheduling, in-house day-care facilities for infants, generous benevolent funds are few such examples. Such efforts to bridge the work/family divide help build loyalty and boosting performance levels.
6. *Creating Boundary Spanners* – Boundary Spanners or ‘*Skippers*’ at IndiGo play a critical role in coordinating work processes (12). They develop a web of relationships of shared goals, shared knowledge and mutual respect across functional boundaries such as pilots, cargo, commercial, engineering, cabin crew, security, catering etc. Coordination that occurs within this web of relationships is most effective and leads to an improved performance of flight departure process.
7. *Measure Performance Broadly* – At IndiGo, the purpose of performance measurement is to learn, improve & perform better each day without a

punitive twist (13). Traditional performance measurement ways undermine performance as they weaken the relationship web which is crucial for achieving performance objectives.

8. *Keeping Jobs Flexible at the Boundaries* – The spirit of IndiGo is such that one may see ground staff or engineers loading bags of pushing around step-ladders or even cabin crew helping passengers in the check-in area, all working towards a common goal – *Low fares, On time & Courteous and Hassle free* for the customer.
9. *Making Employee Groups your Partners* – The quality of labor/management relationship influence relationships throughout the organization (14). Though the organization is very critical and against the formation of a labor union, it makes efforts to reach out to its employees at regular intervals. Employees are encouraged to bring out observations and discuss problems through both informal and formal channels.
10. *Relationships with Suppliers* – IndiGo makes all efforts to partner with its service providers such as Airports, Catering Companies, aircraft manufacturer – Airbus, Air Traffic Services etc. in an attempt to building strong partnerships. By treating suppliers as partners, IndiGo is able to spread its sphere of influence beyond its employees to encompass its entire value chain. (15)

### 3.3 FINANCIALS TODAY

InterGlobe Aviation, owner of IndiGo, has reported a net profit of ₹2,176 crore for the quarter ended June 30, 2025 (Q1 FY2026), down nearly 20% from ₹2,729 crore in the same quarter last year. The profit decline was primarily attributed to higher expenses, up around 10% year-on-year, and significant foreign exchange losses. Revenue from operations rose to ₹20,496 crore in Q1 FY2026, a growth of about 5% from ₹19,570 crore in Q1 FY2025, driven by a 16.4% increase in capacity (ASK) to 42.3 billion and an 11.6% rise in passenger numbers to 31 million. However, yields declined by 5% to ₹4.98, and load factor fell by 2.1 percentage points to 84.6%, reflecting pricing pressures in a competitive market.

Fuel cost per available seat kilometre (CASK) fell sharply by 21.9% to ₹1.38 due to lower average fuel prices, but CASK excluding fuel rose 2.5% to ₹2.93.

The airline noted that all debt on its books is aircraft-related, with no working capital debt. CEO Pieter Elbers commented that while the operating environment remains challenging due to currency volatility and competitive intensity, demand for air travel remains robust, and IndiGo is well-positioned with its low-cost structure and expanding network.

For comparison, in the preceding quarter (Q4 FY2025), IndiGo posted a net profit of ₹3,067 crore, up 62% year-on-year, supported by strong demand and lower fuel costs, and announced a final dividend of ₹10 per share. The Q1 FY2026 performance underscores the airline’s operational resilience but also the sensitivity of profitability to macroeconomic factors like forex movement and yield environment. (8)

3.4 SWOT ANALYSIS OF THE ORGANIZATION

<p style="text-align: center;">SWOT ANALYSIS</p>	<p style="text-align: center;">Opportunity (O)</p> <ul style="list-style-type: none"> <li>i. Surge in leisure travel in India</li> <li>Extended range of A320 &amp; A321 NEO’s.</li> <li>Foreign carriers interested in acquiring stake – reciprocal and mutual asset sharing.</li> <li>v. Availability of secondary airports in South East Asia &amp; Europe.</li> <li>v. After effects of political shocks like Demonetization – demand shift towards Low cost travel.</li> <li>vi. UDAAN scheme</li> <li>vii. Low penetration of LCC’s in the medium-long haul international market.</li> <li>iii. Development of regional airports.</li> </ul>	<p style="text-align: center;">Threat (T)</p> <ul style="list-style-type: none"> <li>i. High Fuel Prices</li> <li>i. High Government Taxes on ATF</li> <li>Saturated Hubs &amp; parking shortage.</li> <li>iv. Glitches in the NEO damaging brand image.</li> <li>v. Erratic and infrequent delivery schedule.</li> <li>Constant regulatory hurdles w.r.t. training, licensing, operations &amp; services.</li> <li>ii. Inability to raise fares.</li> <li>High Price elasticity of demand.</li> <li>Restrictive Regulations – Duty time limits, slots, aircraft deliveries, baggage rules, compulsory complimentary services.</li> <li>Brand awareness at other point of the route segment.</li> <li>x. Saturated routes with excessive capacity city pairs e.g. DEL-BOM</li> </ul>
<p style="text-align: center;">Strength (S)</p> <ul style="list-style-type: none"> <li>i. Excellent Connectivity through well established Hub &amp; Spoke Model.</li> <li>ii. Large Aircraft Order.</li> <li>iii. International Flying rights.</li> <li>iv. Good operating margin.</li> <li>Strong Reputation as reliable operator.</li> <li>vi. Sound training processes and infrastructure in place.</li> <li>vii. Strong technological orientation.</li> <li>i. Very popular marketing campaigns.</li> </ul>	<p style="text-align: center;">Strength - Opportunity</p> <ul style="list-style-type: none"> <li>i. Leverage the opportunity of surging demand for leisure travel.</li> <li>ii. Utilize extended range aircraft for launching new destinations within operational range.</li> <li>Explore Low Cost Long/ Medium Haul services – Tap medium hall market with competitive pricing.</li> <li>Build a retail mindset to increase RASK.</li> </ul>	<p style="text-align: center;">Strength – Threat</p> <ul style="list-style-type: none"> <li>i. Vigorous advertizing and international marketing of the brand.</li> <li>i. Make efforts for greater product differentiation to regain corporate travelers.</li> <li>i. Promote business travel providing innovative and hassle free experience.</li> </ul>

<ul style="list-style-type: none"> <li>ix. Future Mindedness.</li> <li>x. Well funded by investors – Strong Balance sheet.</li> <li>i. High bargaining power being largest airline of the country.</li> <li>xii. High performance by brand new aircraft.</li> <li>iii. High productivity levels of all labor departments.</li> <li>xiv. In-house maintenance facility</li> </ul>	<ul style="list-style-type: none"> <li>v. Identify and build high performance relationships with service providers both domestic and international to boost brand awareness and presence.</li> <li>vi. Identify a strategic airline partner to leverage knowledge and operational expertise.</li> </ul>	<ul style="list-style-type: none"> <li>v. Strict accountability of staff behavior and management.</li> </ul>
<p style="text-align: center;"><b>Weakness (W)</b></p> <ul style="list-style-type: none"> <li>i. Acute crew shortage, crew revolts for better working conditions.</li> <li>ii. Strikes by baggage handlers over stringent working conditions.</li> <li>iii. High attrition rate of Cockpit crew owing to stringent working conditions.</li> <li>iv. Weak Mindset towards retail and revenue from ancillaries.</li> <li>v. Weak currency exchange.</li> <li>vi. Low Revenue per Available Seat Kilometer (RASK).</li> <li>vii. Low Product Differentiation level.</li> <li>viii. Losing business travelers to rivals.</li> <li>ix. Rising number of customer complaints.</li> <li>x. Low to Moderate Cargo Revenue</li> </ul>	<p style="text-align: center;"><b>Weakness - Opportunity</b></p> <ul style="list-style-type: none"> <li>i. Match compensation to industry standards.</li> <li>ii. Establish and leverage ‘partnering for success’ with service providers.</li> <li>iii. Launch revenue boosting schemes and campaigns to benefit from leisure travelers.</li> <li>iv. Greater focus on customer service and front line executives.</li> <li>v. Maximum utilization of crew and resources.</li> </ul>	<p style="text-align: center;"><b>Weakness - Threat</b></p> <ul style="list-style-type: none"> <li>i. Initiate Employee reward program for productivity.</li> <li>ii. Adopt a lean management and supervisory level.</li> <li>iii. Reduce budgets on crew bonus, branding infrastructure.</li> <li>iv. Work on reducing operating costs like crew allowances, night stops etc.</li> </ul>

**3.5 PORTERS 5 FORCE ANALYSIS**

*4.5.1 Threat of New Entrants* – The threat is relatively LOW. Airline is a cost intensive industry with a huge financial commitment. The existing operators are well established and the market is moving towards an over-capacity condition on major metropolitan and business routes. The barriers to entry are also extremely high with fierce competition among the low-cost carriers. High fuel prices and wafer-thin operating margins are a huge deterrent.

*4.5.2 Threat of Rivalry from Competitors* – The threat from rivals is HIGH. Though the threat from Indian low cost and legacy carriers is relatively low, the major threat comes from the South East Asian and upcoming European LCC’s. AirAsiaX, Norwegian, Scoot already operate in the Indian market and have announced ambitious plans to increase connectivity from more Indian cities. SpiceJet is also looking at inducting Boeing 787’s to claim their share of international traffic.

*4.5.3 Bargaining power of Buyers* – The threat from buyers or customers is relatively HIGH. The average target customer for the LCLH business is very price sensitive increasing the price elasticity of demand. Significant drop in demand and yield have been observed in response to price increase as switching costs for flyers is negligible. Also, the pricing difference in such kind of offering has to significantly lower to attract flyers and to influence customers into opting for this service over the full-service carrier’s offering.

*4.5.4 Bargaining power of Suppliers* – HIGH. The aircraft manufacturing market is referred to a Duopoly situation with Airbus & Boeing being the two poles of this industry. With switching costs being extremely high, manufacturers have a significant influence on the airline operations. Airports are also local monopolies with significant power. Limited fuel suppliers also make them a powerful lobby.

*4.5.5 Threat from Substitutes Products/ Services* – The potential threat from substitutes in this business currently are very LOW. In the foreseeable future until high speed railways don't become predominantly common, the LC business is at a pretty safe place. With advancement in VR technology many analysts also argue that business travel may cease to exist in future. Therefore, the LCLH product focusing on the leisure travel market segment may make sustainable business sense.

### 3.6 PESTEL ANALYSIS – A CLOSER LOOK AT THE OPERATING ENVIRONMENT

*4.6.1 Political Environment* – In the early nineties, soon after deregulation, many of the newly established airlines went bust, including Modiluft, Damania (later Skyline NEPC), Gujarat Airways, East West, UBAir and VIF.(16) The Indian civil aviation industry has witnessed annual growth rates of up to 30% in recent years. A slew of low-cost airlines now compete with the more established operators. The civil aviation scenery in India has evolved in many ways. Whereas prior to 1992, when the two public sector airlines, namely Air-India and Indian Airlines enjoyed a monopoly in the domestic sector, today almost a dozen airlines are competing for a market share in the rapidly growing domestic market. Another major change as a result of deregulation of the commercial aviation sector in India has been the option for private airlines to fly overseas after completing five years of operations in the domestic market.

The Union Cabinet announced a major easing of FDI norms for the aviation sector, allowing 100% foreign direct investment into Indian airline operators & 100% for Airports under the automatic route (17). The government of India is also planning to spend \$60bn on doubling the number of airports it operates as it races to meet demand in its aviation market, the world's fastest growing. At present, the country has 100 airports, although it is building new ones fast, with no fewer than 31 expected to be completed in the next 12 months. Of the 100 new airports to be constructed, about 70 will go up in areas that have no airport now, and the remainder will become secondary airports. The secondary airports are intended to deal with a sudden growth in demand for air travel that threatens to overwhelm the present infrastructure. (18)

*4.6.2 Economic Environment* – Almost all domestic carriers have witnessed deterioration in their financial

performance in the last financial year 2017-2018. High ATF prices and heightened levels of competition have taken a toll on the yields of all airlines (22). To add to the turmoil a weak rupee vs dollar exchange has made things tougher. An increased focus on the cost structure is the only solution to curtail the estimated losses.

*Socio-cultural Environment* – With the help of increased access to information, the customers are becoming increasingly more knowledgeable and demanding. India has the potential to become the fastest-growing economy in the world over the next three decades, with average annual growth of between 5% and 6%. Per capita income is set to rise to about US\$38,000 at today's prices, while the population is expected to reach more than 1.7 billion by 2048. This growth will not only make the Indian middle class the biggest group in the country in numerical terms, it will also transform it into a major driver of economic, political and social growth (19). According to the UN World Tourism Organization, 50 million Indians will travel overseas in 2019, up from 23 million in 2017 (20).

*Technological Environment* – Technology in the last decade has probably had a more profound impact on all aspects of an airline operations including new service development than any other factor. Technological advancement has been the driving factor for improving airlines' operational efficiency. Airlines have been able to reduce costs and improve operations by using advanced aircraft engine technology, IT solutions, and mobile technology. The technology has created better connectivity and enhanced passengers' travel experience. Fuel is an airline's largest cost component. Currently, it accounts for more than 30% of average total operating expenses. New aircraft—like the Boeing-737 MAX, Airbus A320/321 NEO, B787, and A350— reduce fuel consumption by double-digit percentages compared to older ones revolutionizing the aviation industry.

*Environmental* – As air traffic grows so then does aviation's overall impact upon the environment. These environmental and health effects have wide ranging implications at the local, regional, and global levels. With the number of aircraft movements expected to increase for the foreseeable future, noise around

airports will also continue to increase, unless quieter aircraft can be introduced and noisier ones phased out. Airlines have also been encouraged to operate in such a way that fewer people are affected by noise, and fines have been imposed on aircraft deviating from track or exceeding prescribed noise levels. Air travel consumes a number of the earth's scarce resources. However, the most significant is aviation's use of fossil-based, non-renewable fuels. The effects from aircraft exhaust emissions are seen as a direct contribution to the mechanisms of climate change. (21)

*Legal Environment* – Legislative change and deregulation have removed many of the traditional barriers to entry to a number of business areas and have opened the marketplace up to increasing competition. Liberalization of the Indian civil aviation sector took place in the mid to late nineties and has led to a large number of private players entering the sector in addition to the two established national carriers (Air India and the erstwhile Indian Airlines). Ministry of Finance imposes a Service tax on air tickets, landing and navigation charges, which contravenes International Civil Aviation Organization's (ICAO) guidelines. India, as a longstanding ICAO member, had helped frame these policies. The Directorate General of Civil Aviation ("DGCA") established under the Ministry of Civil Aviation is the main regulatory body that supervises civil aviation in India. The functions of the DGCA include regulation of air transport services to and from and within India in compliance with the Aircraft Rules, 1937, licensing of pilots, aircraft maintenance engineers and monitoring of flight crew standards registration of civil aircrafts and certifying their airworthiness, investigation of minor air incidents and providing technical assistance to Courts/committees of Inquiry appointed by the Government; supervision over Flying/Gliding Clubs, licensing, safety oversight and surveillance of aerodromes and air carriers, advising the Government on matters relating to air transport including bilateral air services agreements with foreign countries. (23)

### 3.7 THE STAKES HAVE NEVER BEEN HIGHER

A service organization has two choices in today's combative business environment: Succeed at developing new service products, or fail as a company. Increasing competition domestically and globally, a changing regulatory environment, the quickening pace of technological advances, and constantly shifting

customer needs are all fuelling the drive to design new services and products to stay ahead of the competition (24).

Analyzing the organization's internal and external circumstances, it is evident that the airline now needs to look beyond its current strategy i.e. the short-haul low-cost travel business. The shortage of parking bays domestically and the fact that all major domestic routes are already running at over capacity, points towards taking the next natural step that is to explore new markets. For very long carriers from South-East Asia like AirAsia, AirAsiaX, Scoot have rightly given special attention to the Indian market and greatly benefitted from it. With the Next-Gen wide-body aircraft now in the market such as the Boeing 787, Airbus 350 and the fuel-efficient Single Aisle aircraft such as the Boeing 737 MAX & A320/321 NEO's, a whole 'new' market segment emerges opening a wide range of opportunities for the Indian Low-Cost airlines to explore.

To focus on better ways to develop and launch new services, one must clearly define what 'new' means. 'New' may mean a product or service that from customers perspective represents a change; a change that affects or is noticeable to the customer. It could be new to the organization or a new source of revenue or something completely new to the marketplace – or both at the same time.

For IndiGo, venturing into the Low-Cost Long-Haul business can be categorized as 'Addition to the existing service line'. Although new for the company, this type of service is not new to the marketplace. One may also argue that this is essentially venturing into a new market for an existing service line. However, the inherent complexities involved in the LCLH model make it highly questionable.

## IV. STUDYING SOME OF THE ESTABLISHED LOW-COST LONG-HAUL CARRIERS

### 4.1 NORWEGIAN

Routes with sector length of more than 4,000km: 86

Routes with sector length of less than 4,000km: 363

Aircraft on sector lengths of more than 4,000km: Boeing 737-800, 737 Max 8, 787-8, 787-9.

Longest flight by distance: London Gatwick to Buenos Aires (11,098km)

Norwegian continues to be the industry's go-to disruptor, although it arguably still has much to prove in long-haul markets. Loss-making during periods when rivals were making hay amid low oil prices, it surprised some by swinging to an operating profit for the second quarter of 2018. That came as IAG appeared to cool its fervour to acquire the Scandinavian operator. The second quarter of this year represented the "peak" of Norwegian's growth, said the carrier, with capacity in ASKs up 48% year on year. That was partly driven by a doubling of the widebody fleet over the previous 12 months.

Norwegian's multiple new long-haul point-to-point services – many flown with Boeing 737 Max 8 narrowbodies – have brought mixed results. A number have closed within months of launch, most recently its transatlantic routes from Edinburgh. The airline has also announced the cessation of its London Gatwick-Singapore service – the latest failure within a Europe-Asia market that appears hostile to low-cost operations.

"Norwegian's long-haul growth is substantially diluting the company's operating performance, and further stretching an already-stretched cash flow and balance sheet," argued analysts Bernstein in a July report. In the next few months, Norwegian's stakeholders will be keeping a close eye on the impact of rising fuel costs on its long-haul operations and on defensive moves from network carriers.

#### 4.2 EUROWINGS

Routes with sector length of more than 4,000km: 30  
 Routes with sector length of less than 4,000km: 400  
 Aircraft on sector lengths of more than 4,000km: Airbus A330, A340  
 Longest flight by distance: Munich to Las Vegas (9,281km)

Lufthansa described the first half of this year as "very busy and stressful" for Eurowings, as its second-quarter operating profit fell 91% to €5 million (\$5.8 million). The drop in performance was attributed to "increasing service irregularities" in the form of flight delays and cancellations, which necessitated "significant modifications" to Eurowings' summer schedule. In terms of recent long-haul developments, Eurowings announced in December its plan start thrice-weekly La Vegas flights from Dusseldorf on 3 July 2019, using Airbus A330 and

A340 jets. Dusseldorf has become the carrier's largest long-haul base for the winter season. The carrier has based eight aircraft there and announced new services to Thailand and Cuba, alongside several existing US routes.

Munich is considered Eurowings' "second location" for intercontinental services, it said earlier this year. Lufthansa, however, will grow mainline operations rapidly at Munich next summer, including starting daily Bangkok services – a route that Eurowings has operated this summer. Much of Eurowings' recent growth has come from taking on Air Berlin, Brussels Airlines and LGW assets, while some of its flights are operated by leisure airline SunExpress. Eurowings is widely seen as having a defensive function to offset the rise of true budget operators in the region. Its strong ties to its parent make it more of a "hybrid" airline than a low-cost operator – a point proven by its absorption of some Brussels Airlines assets – meaning it has limited value as a bellwether for the business model.

#### 4.3 AIR CANADA ROUGE

Routes with sector length of more than 4,000km: 26  
 Routes with sector length of less than 4,000km: 93  
 Aircraft on sector lengths of more than 4,000km: Boeing 767-300  
 Longest flight by distance: Toronto to Athens (8,148km)

Air Canada's budget arm has been a key part of strong group performance in recent years. It is therefore better versed than many in the challenges of the low-cost long-haul model. Speaking at Farnborough air show in July, Air Canada chief executive Calin Rovinescu said that while low-cost carriers had a competitive edge in short-haul markets, there was an "equalising" effect in long-haul markets, where fuel is such a large proportion of cost that legacy carriers' extra burdens in other areas – such as pension liabilities – are less pronounced.

Nevertheless, "we are not ready to throw in the towel to the likes of Norwegian yet", he added, weeks after the Scandinavian carrier had announced plans to move into the Canadian market. Air Canada Rouge was launched in 2012 with a focus on serving leisure routes with high-density, older aircraft handed down from its parent. It currently operates to destinations in Africa, Asia, the Caribbean, Central and South America,

Europe, and the USA. Cheaper crew contracts have helped the unit to flourish, but as with many such subsidiaries of mainline carriers, it is debatable whether Rouge can be considered a true low-cost operator.

#### 4.4 WESTJET

Routes with sector length of more than 4,000km: 19  
Routes with sector length of less than 4,000km: 174  
Aircraft on sector lengths of more than 4,000km: Boeing 737-700, 737-800, 737 Max 8, 767-300  
Longest flight by distance: London Gatwick to Vancouver (7,643km)

The Canadian operator announced its first quarterly loss in 13 years for the three months ended 30 June 2018. That came a few months after it waved goodbye to chief executive Gregg Saretsky, with Ed Sims taking the reins amid a transformative period for the carrier. Key to its long-haul strategy are incoming Boeing 787-9s, which will feature lie-flat and premium economy seats. They will be deployed on routes to Europe and possibly Asia. WestJet is also building business-class lounges. Those moves suggest that it is unlikely to be considered a true low-cost long-haul operator for long. "When WestJet launched back in 1996, it was very much a point-to-point carrier," wrote Sims in the carrier's in-flight magazine earlier this year. "Today, WestJet is evolving into what is known as a hub-and-spoke airline."

#### 4.5 SCOOT

Routes with sector length of more than 4,000km: 16  
Routes with sector length of less than 4,000km: 56  
Aircraft on sector lengths of more than 4,000km: Airbus A320; Boeing 787-8, 787-9  
Longest flight by distance: Singapore to Berlin (9,936km)

The Singapore Airlines low-cost unit saw its operating profit fall from S\$3 million (\$2.2 million) to S\$1 million in the second quarter of 2018. Scoot's longest route, a Singapore-Berlin service, was launched in June this year, while it also flies long-haul services to Athens, Honolulu and destinations in Australia. Much of the budget carrier's focus in recent years has been on the integration of fellow SIA carrier Tigerair, which added a number of Airbus narrowbodies

to Scoot's fleet. Speaking to FlightGlobal in the middle of last year, Scoot chief executive Lee Lik Hsin said the carrier was focusing on improving feed between the group's narrowbody and widebody operations. Beyond its own operations, Scoot's strategy is very closely tied to that of its parent.

In June, SIA senior vice-president of corporate planning Lee Wen Fen said of the group's network strategy: "It's really looking at various markets and saying, does this market warrant an LCC, or full service, or is the market big enough for both... and then working out amongst ourselves, co-ordinating within the group on who should fly where and how do we manage overlaps."

#### 4.6 AIRASIA X GROUP

Routes with sector length of more than 4,000km: 16  
Routes with sector length of less than 4,000km: 14  
Aircraft on sector lengths of more than 4,000km: Airbus A330-300  
Longest flight by distance: Osaka-Kansai to Honolulu (6,624km)

AirAsia X Group co-chief executive Tony Fernandes recently told FlightGlobal that true long-haul low-cost services were not on the carrier's radar. "We are pioneers in the long-haul low-cost market, but the reality of the model is medium-haul routes of six to eight hours – that is the sweet spot," he said. Fernandes also noted that AirAsia X's strategy was focused on "high frequency, country dominance" routes that have connection options with sister carrier AirAsia. He doubts the viability of most long-haul point-to-point markets, arguing that network carriers have much of the market sown up through their hubs.

That all but rules out any European routes for AirAsia X. Earlier this year, however, Fernandes reiterated the operator's plans to start flights to the west coast of the USA via Japan after it receives its first Airbus A330neos in late 2019. AirAsia X reported a deeper operating loss of MYR96 million (\$23.3 million) for the second quarter of this year, compared with MYR12.8 million in the same period of 2017. The carrier attributed the poorer results to a "higher operating cost" environment.

#### 4.7 JETSTAR GROUP

Routes with sector length of more than 4,000km: 15  
Routes with sector length of less than 4,000km: 172

Aircraft deployed on sector lengths of more than 4,000km: Boeing 787-8  
Longest flight by distance: Melbourne to Honolulu (8,858km)

Jetstar Group achieved a record earnings result for the year ending 30 June, although domestic operations appear to be central to this. The Qantas unit was established in 2003 in a defensive move as Virgin eyed Australian services. Long-haul routes launched in 2006, meaning its markets are much more mature than equivalents in other regions. Jetstar appears relatively relaxed, therefore, on its long-haul ambitions. It currently serves markets in China, Hawaii, Indonesia, Japan and Vietnam using Boeing 787-8 widebodies. Change is most likely when it receives Airbus A321neos, which are due to enter its fleet from 2020. In announcing the delivery of the jets, Qantas said they could fly up Australia's east coast up to Denpasar, potentially allowing some of Jetstar's 11 787-8s to be deployed in other markets. However, Jetstar Group chief executive Gareth Evans told FlightGlobal earlier this year that the main focus for the A321neos would be on the domestic network, where they are central to a replacement programme for its fleet of 52 baseline A320s and eight A321s.

Meanwhile, in June, Evans all but ruled out Jetstar services to Europe, stating: "Those sorts of distances are pretty new for low-cost European carriers, but here to Europe is a different proposition altogether. It's multi-sector, so you're going to have to stop off on the way, and that adds cost and complexity, and our business model is all about simplicity." Aside from its main operation, Jetstar's various units are focused on short-haul markets. Thanks to its status as a Qantas unit, Jetstar has limited use as a health indicator for the long-haul low-cost business model.

#### 4.8 WOW AIR

Routes with sector length of more than 4,000km: 15  
Routes with sector length of less than 4,000km: 18  
Aircraft on sector lengths of more than 4,000km: Airbus A321, A330  
Longest flight by distance: Reykjavik to Los Angeles (6,943km)

Wow Air's recent financial performance was outlined in an August 2018 investor presentation related to its first bond issue. The presentation shows that the

Icelandic carrier swung to an operating loss of \$14 million in 2017, having made a \$30 million profit the previous year. Wow expects the loss to deepen to \$28 million in 2018, before a return to profit in 2019. "Yields decreased in 2017, as airfares adjusted to previous drops in fuel prices and increased competition," the document states. "Growing pains include higher hiring and training costs; infrastructure investments; delivery costs associated with new aircraft; and start-up costs for new routes." Early in 2017, Wow added "Comfy" and "Premium" booking options, the latter featuring a larger seat, as the carrier embraced the trend of seeking revenue growth away from the traditional, no-frills low-cost offering. "As of Q2 2018, Comfy and Premium seats deliver 1.9x and 2.9x higher yields, respectively, compared to basic economy fares," the document notes.

It also states that from 2019, Wow's growth rate will be "adjusted to more sustainable levels". Just two aircraft are set to join its fleet next year. Wow will meanwhile launch its first Asia service in December, operating from Reykjavik to Delhi, and is set to put its first A330neo into service around the same time. Chief executive Skuli Mogensen recently confirmed that the carrier was also planning an IPO within the next 18-24 months. Iceland's location means that Wow is able to offer transatlantic connections with relatively short flights, compared with European rivals.

#### 4.9 LION AIR GROUP

Routes with sector length of more than 4,000km: 12  
Routes with sector length of less than 4,000km: 244  
Aircraft on sector lengths of more than 4,000km: Boeing 737-900, 737 Max 8 (Airbus A330 deployed on sub-4,000km sectors)  
Longest flight by distance: Bali to Tianjin (5,304km)

Indonesia's Lion Air Group flies a number of sectors that only just register on the long-haul barometer. In a more significant development regarding long-haul low-cost, however, Lion emerged as a customer for the re-engined Airbus A330neo in August. Eight of the aircraft will be delivered from 2019 via lessor BOC Aviation. The A330neo will allow the company to expand its network and consider longer routes, according to Lion Air Group chief executive Edward Sirait.

Lion has previously ordered six A330-300s, three of which are operated through its partner carrier Thai Lion Air. They are currently deployed on short- and medium-haul routes. Lion Air Group is a private company, so does not release financial results.

#### 4.10 LEVEL

Routes with sector length of more than 4,000km: 10 (estimation)

Routes with sector length of less than 4,000km: 14 (estimation)

Aircraft used on sector lengths of more than 4,000km: Airbus A330-200

Longest flight by distance: Barcelona to Buenos Aires (10,458km)

Launched by IAG in 2017 as a long-haul low-cost operation based in Barcelona – seemingly as a defensive response to Norwegian's expansion from the city – Level has since added a Paris base and broadened its horizons to include short-haul services from Vienna. It is too early to assess the success or otherwise of this venture by the British Airways and Iberia parent, however. During a half-year briefing, IAG chief executive Willie Walsh said there was "still a lot of noise" regarding Level traffic statistics – which are "embedded" in Iberia's – and that IAG wants to "clean it up" before disclosing its figures. Indeed, the airline has only just welcomed its first dedicated chief executive – in July it announced that Flybe chief strategy officer Vincent Hodder had been appointed to the role. Hodder has taken over an airline with plenty of potential, not least thanks to the feed provided by IAG's pan-European network.

#### 4.11 CAPITAL AIRLINES

Routes with sector length of more than 4,000km: 9

Routes with sector length of less than 4,000km: 271

Aircraft on sector lengths of more than 4,000km: Airbus A330

Longest flight by distance: Beijing to Lisbon (9,682km)

The HNA Group carrier, based at Beijing Capital International Airport, re-launched as a low-cost operator in 2014. In terms of long-haul growth plans, it was most recently seen requesting rights to fly to Seattle from Xian, beginning December this year. It also began service from Beijing to the Maldives in

July, as well as a Hangzhou-Moscow route. Details on its financial performance are few and far between. Earlier this year, Hainan Airlines denied claims it was planning to sell a majority stake in Capital Airlines to Air China.

#### 4.12 AZUL

Routes with sector length of more than 4,000km: 7

Routes with sector length of less than 4,000km: 204

Aircraft deployed on sector lengths of more than 4,000km: Airbus A320, A330-200

Longest flight by distance: Sao Paulo to Lisbon (7,903km)

The Brazilian budget carrier's long-haul services are closely tied to its partnership with TAP Air Portugal, hence its daily Sao Paulo-Lisbon service. Aside from a few US services, Azul's network is dominated by domestic Brazilian flights, and its international ambitions appear to be small.

#### 4.13 JOON

Routes with sector length of more than 4,000km: 5

Routes with sector length of less than 4,000km: 18

Aircraft deployed on sector lengths of more than 4,000km: Airbus A340-300

Longest flight by distance: Paris to Cape Town (9,328km)

Air France-KLM has been careful to talk up Joon as a millennial-focused hybrid operation, rather than a low-cost one. While it therefore offers little encouragement to true long-haul low-cost operators, it perhaps hints at where the market might be heading. Some of its strategy is budget-like, such as new contract terms for cabin crew. But elsewhere, the product is closer to a full-service offering, with three-class cabins and complimentary food on its long-haul flights. Recent route developments include the announcement that Joon will operate Paris-Quito services during the summer of 2019.

At the carrier's launch last year, Joon chief executive Jean-Michel Mathieu said the subsidiary was a response to competition, specifically to address concerns that Air France was losing ground at its Paris Charles de Gaulle hub. It remains to be seen what importance new Air France-KLM chief Ben Smith places on Joon in the group's future strategy.

#### 4.14 CEBU PACIFIC

Routes with sector length of more than 4,000km: 3  
 Routes with sector length of less than 4,000km: 76  
 Aircraft used on sector lengths of more than 4,000km: Airbus A330  
 Longest flight by distance: Manila to Dubai (6,915km)

The Philippine low-cost carrier has significantly reduced its long-haul presence in recent years. In the middle of last year, for example, it cut routes to Doha, Riyadh and Kuwait. Just before those cancellations, Cebu chief executive Lance Gokongwei told FlightGlobal that Middle East competition had become "quite a bloodbath" as Gulf carriers and Philippine Airlines competed for its customers. Towards the end of 2017, Cebu said it needed to "rethink" its long-haul strategy and focus on meeting existing demand for regional and domestic flights.

Earlier this year it suggested that "our international growth strategy going forward is to connect secondary Philippine cities to international destinations", but few hard details have been forthcoming. The carrier has previously cited the large concentration of Filipino workers overseas as potentially creating long-haul point-to-point markets. But rising fuel prices and a weaker second-quarter performance are unlikely to prompt any significant long-haul moves.

While most commentators agree that long-haul low-cost operators have had a disruptive influence in their respective markets, doubt creeps in when discussion turns to the model's economic viability. An analysis of some of the key players indicates that those doubts are well founded. Few if any airlines have made true long-haul low-cost work in a sustainable manner, despite some achieving sporadic profitability.

V. UNDERSTANDING THE COSTS CENTERS OF THE LC MODEL

Cost Category	Cost Item	Lever for Reducing Cost in LCC's
Aircraft Ownership Cost	<ul style="list-style-type: none"> <li>Ownership Structure</li> <li>Fleet Structure</li> <li>Aircraft Utilization</li> </ul>	<ul style="list-style-type: none"> <li>Anti Cyclical Purchasing</li> <li>Optimize owned/leased mix                             <ul style="list-style-type: none"> <li>Fleet Harmonization</li> </ul> </li> <li>Optimize mix of old &amp; new aircraft                             <ul style="list-style-type: none"> <li>Reduce Turn-around times</li> <li>Reduce maintenance downtime.</li> </ul> </li> </ul>
Fuel Cost	<ul style="list-style-type: none"> <li>Route Efficiency</li> <li>Purchasing Cost</li> <li>Weight Reduction</li> </ul>	<ul style="list-style-type: none"> <li>Shorter en-route and approach times</li> <li>Reduce delays, use smaller airports                             <ul style="list-style-type: none"> <li>Reduction in service fees</li> <li>Use of fuel hedging strategy</li> </ul> </li> <li>Calculation of 'no-show' passengers</li> <li>Product Innovation eg. Seats.</li> </ul>
Maintenance Cost	<ul style="list-style-type: none"> <li>Fleet</li> <li>Service Costs</li> </ul>	<ul style="list-style-type: none"> <li>Fleet Harmonization</li> <li>Reduce average fleet age</li> <li>Optimize maintenance activities</li> <li>Joint purchasing of some work</li> </ul>
Crew Cost	<ul style="list-style-type: none"> <li>Productivity</li> <li>Wage-related Costs</li> <li>Crew Costs</li> </ul>	<ul style="list-style-type: none"> <li>Improving planning of crew logistics</li> <li>Lower Block hour restrictions</li> <li>Fewer and/or less senior cabin crew</li> <li>Reduction of extra-wage allowances</li> <li>Reduce need &amp; number of night stays                             <ul style="list-style-type: none"> <li>Reduce overnight stay allowances</li> </ul> </li> </ul>
Handling Cost	<ul style="list-style-type: none"> <li>Service Level</li> <li>In sourcing</li> </ul>	<ul style="list-style-type: none"> <li>Standardization of SLA's</li> <li>Revise SLA Component</li> </ul>

	<ul style="list-style-type: none"> <li>• Reduce Handling Fees</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-cleaning activities by Cabin crew</li> <li>• Loading/unloading support from crew</li> <li>• Global contracts with key suppliers                         <ul style="list-style-type: none"> <li>• Off-peak pricing</li> </ul> </li> </ul>
Catering Cost	<ul style="list-style-type: none"> <li>• Reduce unit Cost</li> <li>• Reduce Volumes</li> </ul>	<ul style="list-style-type: none"> <li>• Simplification of meal choice</li> <li>• Reduce logistics cost for delivery</li> <li>• Monitor passengers Vs available meals                         <ul style="list-style-type: none"> <li>• Improve waste management.</li> </ul> </li> </ul>
Distribution Cost	<ul style="list-style-type: none"> <li>• Ticketing</li> <li>• Sales Channel</li> <li>• Sales Commissions</li> </ul>	<ul style="list-style-type: none"> <li>• Development of e-ticketing                         <ul style="list-style-type: none"> <li>• Self-service check-ins</li> </ul> </li> <li>• Divert customers to on-line channels</li> <li>• Efficient customer service call centers</li> <li>• Target driven contracts with agents                         <ul style="list-style-type: none"> <li>• Reduce commissions</li> </ul> </li> </ul>
General Overheads	<ul style="list-style-type: none"> <li>• Supplies, Admin personnel, utilities, insurance, communications etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Adopt a lean structure to the organization</li> <li>• Identify &amp; cut unnecessary admin costs.</li> </ul>

In the airline industry, costs can be modeled into two categories – volume-based & operations-based (27). While the all-cost categories are listed in the above table, in cost accounting actual capacity outputs are used as cost drivers.

*Volume based Cost –*

- The economics literature on airline operations follows this practice by using CASK or CASM – Cost per Available Seat Kilometer/ Mile and Cost per Available Ton Kilometer/ Mile (CATK/CATM) measuring actual outputs in terms of revenue passengers and ton miles. As most airlines are primarily passenger carriers, we can combine the two in term of Capacity Seat Miles (CSM) for measuring output capacity.

*Operations based Cost –*

- a) Cost of Ownership & Operation of Aircraft – Owning & operating A350 or B787 or the B737 MAX or A320/321 NEO can make a difference in this regard as what is paramount to the LCLH airline is fuel burn. Aircraft leasing or purchasing is also an important strategic decision having a significant bearing on the overall cost of operation. On one hand a huge fixed cost is generated, on the other much needed working capital is freed up for running day-to-day operations.
- b) Aircraft Size & Stage-length – Depending on the size/ volume of traffic a larger aircraft may have to be used on a given route delivering higher CSM

at a given level of flight crew labor and fuel cost. As stage length increases, economies are achieved because the effect of high fuel consumption during take-off and landing can be amortized over a larger distance (26).

- c) Density – Increasing frequency or the number of flights over a network that is the density with which the carrier operates tends to give airlines a significant cost advantage. Economies of density enable a carrier to offer a more diversified set of services at a given cost.
- d) Hub Concentration – In contrast to Point-to Point, by concentrating operation at sights geared towards high throughput generates important cost savings because of more efficient use of resources and inputs. Carriers thus achieve substantial economies for example, in maintaining fleet, using ground equipment, labor, filling large aircraft on hub-to-hub routes.
- e) Scale – Ground property & equipment, general overheads, maintenance labor and materials and overhead inputs having a fixed component may have increasing return to scale, however constant return are likely for other cost categories.

VI. THE ENIGMA OF LOW-COST LONG HAUL – IS THE MODEL VIABLE?

LCCs that succeeded in short haul enjoyed structural, hard-to-match cost advantages; markets with

significant latent demand; and a unique value proposition that appealed to and was perhaps even preferred by a wide range of customers. The combination of these factors has enabled LCCs to continuously under-price mainline airlines, limit retaliation, and over time build a loyal customer base that will not switch carriers when and if mainlines choose to match prices. However, this model is difficult to replicate on long-haul routes. The potential unit-cost advantage for long-haul LCCs is evidently only from higher seat count, produced by

shrinking the premium cabins and making the economy sections denser. The other disadvantage is from input costs, which are less flexible in long haul. For instance, on long-haul flights, fuel’s share of direct operating costs grows from 30 to 50 percent (28).

- a) Asset turn Vs cost advantage wrt journey times.
- b) Industry of low margins.
- c) Fuel Component becomes bigger factor of total cost in Long Haul
- d) Disruption Life Cycle -

SOLUTIONS TO THE ENIGMA OF LCLH	
Turnarounds (short turnarounds lead to better aircraft utilization, lower crew costs, and fewer aircraft needed to serve the network; on LH flights turnaround time increases linearly with sector length and aircraft size) => solution: flexible scheduling (flights leave and arrive at different times to same destination), combination of shorter sectors through intermediary hubs, medium size or extra range smaller aircraft (i.e. B787, A350, B737Max, A320Neo).	
Aircraft utilization (the longer the sector distances the lower the direct cost advantage over legacies) => solution: operate mini-hubs that cut longer distances in half (regulatory hurdles to this approach may require subsidiaries in various countries, i.e. similar model as Air Asia).	
Airport charges (LCLH tend to operate into similar airports as the network carriers and incur higher costs because of lower frequencies) => solution: operate from secondary airports with lower airport charges.	
4. Connections and alliances (LCLH is more dependent on feeding to fill larger aircraft at high load factors, especially if operating from secondary airports, so they tend to forge costly alliances) => solution: operate from secondary airports that provide “independent” connection services (i.e. Cologne model).	
Seat density (on longer flights passengers are more concerned about leg space causing the LCLH to offer more space without offsetting reduction in revenue, i.e. WOW Air) => solution: use MAERSK model19 and sell variable seat pitch with different pricing schemes to make up lost revenue. Key is to keep the price increments reasonable and charge for as many seats as possible.	
Simplified fleet (long-haul distances vary much depending on destination making it difficult to operate only one AC type) => Solution: use mini-hub system to optimize aircraft size around one flexible type).	
Frequencies (it is easier to offer high frequencies on short haul than long haul because of lower start-up costs and route demand risk, start-up costs and risks associated with long-haul are higher so LCLH will lack comparable frequency as network carriers, attracting less premium traffic that seeks flexibility) => solution: operate mini-hubs that enable density economics and therefore more frequencies with smaller aircraft.	
8. Premium service (LCLH usually seek premium traffic because of difficulties making the LC model work. Offering premium service and large sleeper seats has costs associated that may be proportionally larger than the extra revenue generated compared to the network carriers, causing lower margins for the LCLH) => solution: unbundle by focusing on the primary value, the seat pitch, avoid other costly services associated with business class like lounges and space intensive sleeper seats, developed for the network carrier product. Also unbundle ticket flexibility from seat pitch. Some passengers will pay for ticket flexibility but not more seat pitch, and vice versa.	

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