Competitive advantages of global airline alliances

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博士論文

Competitive advantages of global airline alliances

（国際エアラインアライアンスの競争優位）

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Abstract

Over the past several decades, the aviation industry has been reshaped, centering on global alliances, and these have grown exponentially. Global airline alliances have ensured their market presence in the aviation industry. Many airlines have participated in global alliances pursuing strategic and operational merits. Therefore, scholars have focused on issues relative to global airline alliances.

However, several research gaps surrounding global airline alliances exist. It is still unclear whether currently, global airline alliances have competitive advantages surpassing their rivals. Also, although there are three prominent global alliances (e.g., oneworld, SkyTeam, Star Alliance), it is unclear what the specific competitive advantage of each global alliance is. Previous studies have mainly focused on the effects of the global alliance affiliation of airlines using historic data. However, panel data analysis has several limitations. Even panel data analysis could not sufficiently consider various factors affecting the result excepting global alliance affiliation. The result may differ depending on the alliance development stage. Previous studies mainly focused on the early and middle-stage of global airline alliances. Such studies found it hard to reflect on current business situations. Limited data accessibility is another problem. Airline performance data is recognized as confidential business information and, as it is related to national and public security, the data is only available if it is voluntarily offered. On the other hand, it can be said that study of alliance affiliation as a defensive move is relatively neglected. Although airlines have participated in global alliances pursuing operational merits, they also seek the defensive effect of avoiding competition with strong rivals by cooperating with them through alliance affiliation. Many previous studies have pointed out that relevant comprehensive and novel studies are rare.

Considering these research gaps, this thesis aims to shed light on the current competitive advantages of global airline alliances versus their rivals. To achieve its research goals, based on a resource-based view, this thesis carried out three types of quantitative and qualitative cross-sectional performance data analysis between the global alliance group and its non-alliance rival group, and also among the three alliances. This thesis has estimated the existence of competitive advantages from subject groups' performances. The first analysis is mainly based on the supply side using comprehensive airlines' performance data. Mann-Whitney U tests between financial performance (operating revenue), traffic (passenger volume, RPKs, load factor) and other aspects of performance (efficiency) of airlines participating in alliances and non-alliance airlines were performed using 604 data, as well as Kruskal-Wallis H tests of the three alliances; oneworld, SkyTeam, and Star Alliance. As a result, alliance members' financial and traffic performances were found to be better than non-alliance airlines. There were no significant differences between

alliance groups and non-alliance groups on alternative performances, and also among the three alliances on all the performances. Therefore, this thesis concludes that, currently, global airline alliances have only a financial competitive advantage among possible competitive advantages on the supply side.

The second analysis is focused on the demand side using user-generated data. A hybrid text mining analysis was adopted as this section's method. Frequency tests, Mann-Whitney U tests, and Kruskal-Wallis H tests were performed using 6393 ordinal and word-of-mouth (WOM) data. As a result, the degree of passengers' perceptions of alliances was found to be low, the non-alliance group outperformed the alliance groups, and there were no significant differences between alliances on service rating and sentiment score. Therefore, this thesis concludes that currently, the non-alliance group has competitive advantages derived from the demand side.

The third analysis is mainly focused on the quality of strategic communications of global airline alliances as a novel method for measuring competitive advantages. In this section, this thesis assessed the differences in the quality of strategic communication between the three leading alliance groups (oneworld, SkyTeam, and Star Alliance) and a non-alliance group. Comprehensive content analysis was implemented using the letters of chief executive officers (CEOs) of 46 airlines. This thesis found that the non-alliance group has more ideal CEO letters than the alliance groups, and the main topics and quality of CEO letters of alliances differed. Therefore, this thesis concludes that currently, the non-alliance group and oneworld have a competitive advantage related to their strategic communication.

Through the findings, the following theoretical contributions are expected. First, this thesis has added knowledge of competitive advantages of current global airline alliances including both supply and demand side. Second, this thesis has suggested comprehensive and novel research methods for measuring the competitive advantages of current global airline alliances. Finally, the findings of this thesis have plentiful insights for various stakeholders in the aviation industry, in particular, managers of global airline alliances and airlines.

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Publications from this thesis

The following research articles have been made from the research carried out for the completion of this Ph.D. thesis.

- Seo, G-H. (2019). Strategic organization value sharing of an international airline alliance: a content analysis of the Star Alliance mission statement, *Rokkodai Ronshu*, 65(4), 29-46. Kobe University, Kobe, Japan, 1 March 2019. (Japanese Language)

- Seo, G-H., Itoh, M. (2019). Trends of corporate mission statements: From pursuing profit to distinctive and social value, *HOLISTICA – Journal of Business and Public Administration*, 10(3), 27-36.

- Seo, G-H. (2020). A content analysis of international airline alliances mission statements, *Business System Research*, 11(1) 89-105.

- Seo, G-H. (2020). Competitive advantages of international airline alliances: A critical review (2020), *HOLISTICA – Journal of Business and Public Administration*, 11(1), 139-145.

- Seo, G-H., Itoh, M. (2020). Perceptions of customers as sustained competitive advantages of global marketing airline alliances: A hybrid text mining approach, *Sustainability*, 12(5), 6258.

- Seo, G-H., Hong, S-T. (2020). Extracting customer dissatisfaction narratives from duty-free shoppers' online reviews: Focused on content analysis by cultures and channels, *Journal of the Aviation Management Society of Korea*, 18(5), 107-123. (Korean Language).

- Seo, G-H. (2020). Evaluating and exploring successful disruptive innovation in the aviation industry from the perspective of consumers: A comprehensive content analysis of low-cost carrier passengers' word of mouth, *International Journal of E-Services and Mobile Applications*, 13(4), Article 7.

The following papers made from the research have been submitted to academic journals and are currently under review (both passed the desk evaluation).

- Seo, G-H., Itoh, M. (2020) Measuring the sustained competitive advantages of international airline alliances (under review).

- Seo, G-H., Itoh, M., Li, Z. (2020) Strategic communication and competitive advantage: Assessing CEO letters of global airline alliances (under review).

“And in the midst of the church she shall open his mouth, and shall fill him with the spirit of wisdom and understanding, and shall clothe him a robe of glory.”

Sirach 15:5

“*If I have seen further it is by standing on the shoulders of Giants*.”

Isaac Newton

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1. Introduction

Over the past several decades, it has become generally recognized that competition has evolved from firms to global alliance groupings (Whipple & Frankel, 2000; Ireland et al., 2002; Morrish & Hamilton, 2002; Gomes-Casseres, 2003). The airline industry is also unexceptional in this phenomenon. According to Gomes-Casseres (2003), the airline industry is one of the industries that most frequently forms global alliances along with automobiles, telecommunications, and the computer industry. As firms' competition has moved from firm versus firm-level competition to group versus the group-level competition, and as an airline's operation affects all alliance members in the global alliance context, the concern with strategic communication should be extended to each group's collective strategic communication alliance-wide.

The aviation industry has been reshaped, centering on global alliances, and these have grown exponentially (Cobeña et al., 2019). Global airline alliances have ensured their market presence in the aviation industry. Many airlines have participated in global alliances pursuing strategic and operational merits. With the increase in the market presence of global airline alliances, many scholars and practitioners in the aviation industry have begun to pay attention to this issue.

In past studies, the network strategies of global airline alliances (Dennis, 2000), factors of an alliance's success (Whipple, 2000), differences among mission statements of the three global airline alliances (Seo, 2020), themes related to who benefits from an alliance (Morrish & Hamilton, 2002), and human resource management issues of global airline alliances (Holtbrügge et al., 2006) were discussed. In particular, the impacts of airlines participating in alliances have been a central topic in this research field. There has been an extensive discussion about financial performance as the measuring parameter of alliance competitive advantage. Barney (2011) suggested that simple accounting methods such as return on assets (ROA) and return on equity (ROE), or Tobin's q can be useful tools measuring competitive advantages because a competitive advantage indicates a relatively high economic value created by a firm compared to competitors. Regarding airline alliances, scholars have tried to measure competitive advantages with the focus on changes in financial performance (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Min & Joo, 2016) and traffic performance such as passenger volume (Park & Zhang, 1997; Park & Zhang, 2000; Iatrou & Alamdari, 2005; Min & Joo, 2016), revenue passenger kilometers (RPKs) (Rajasekar & Fouts, 2009; Min & Joo, 2016), load factor (Iatrou & Alamdari, 2005; Lazzarini, 2007; Assaf & Josiassen, 2011; Min & Joo, 2016), and available seat kilometers (ASKs) (Lazzarini, 2007), as well as environmental performance (Payán-Sánchez, 2019). Moreover, there have been several novel approaches, such as investigating competitive advantages derived from the passengers' side (e.g., Goh & Uncles, 2003; Weber & Sparks, 2004; Wang, 2014; Seo & Itoh, 2020).

1.1. Research gap

Several research gaps surrounding global airline alliances exist. The research gaps can be classified into two categories: 1. research thematic research gap, 2. methodological research gap.

The first research gap in previous works concerns the fact that it is still unclear whether, currently, global airline alliances have competitive advantages surpassing their rivals. At a glance, this problem-posing is similar to past studies that sought to identify the effects of global alliance affiliations of airlines. However, the research view adoped in this thesis demands a paradigm change as it will not focus on the historical effect of alliance affiliation using panel data analysis, but on the relatively current business situation using comparative data analysis. Also, even though it is recognized that the three global airline alliances (e.g., oneworld, SkyTeam, Star Alliance) have been predominant for several decades in the aviation industry (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Holtbrügge, 2006; Wang, 2014; Douglas & Tan, 2017), little research has focused on their relative competitive advantages and differentiation. In other words, the existence of the specific competitive advantage of each alliance means that competitive advantage can be utilized as a source and point of differentiation. On the other hand, it can be said that study of alliance affiliation as a defensive move is relatively neglected. Although airlines have participated in global alliances pursuing operational merits, they also seek the defensive effect of avoiding competition with strong rivals by cooperating with them through alliance affiliation. Currently, participating in global alliances is an inevitable and defensive move for airlines (Kleymann & Seristö, 2004; Iatrou & Alamdari, 2005), because, once alliances are formed, they absorb existing traffic volume into their networks. As a result, airlines need to create a parallel network or participate in existing alliances to keep their traffic (Kleymann & Seristö, 2004). Although prior studies have mainly focused on the positive and negative effects on an airline of joining a global alliance, one of the most important purposes of airlines participating in an alliance is a defensive objective (Iatrou & Alamdari, 2005). Namely, through a global alliance with leading airlines and even competitors, airlines can avoid competition with competitive airlines. Thus, it is vital to make clear whether airlines can achieve a defensive goal through a global alliance.

The second research gap in past works relates to research methodology. There is controversy about whether it is worth measuring alliance groups' collective competitive advantages and if they can be measured. It is generally recognized that measuring an alliance group's overall competitive advantage is difficult due to its complexity and the effect of external factors (Kleymann, 2004).

However, as firms' competition has moved from firm versus firm-level competition to group versus group-level competition, and as the aviation industry is unexceptional in this phenomenon, it can be said that there is no doubt as to the importance of measuring alliance groups' competitive advantages, even though it is necessary to partly admit the methodological limitation. It is not easy to measure collective competitive advantage. There exist various perspectives on measuring the competitive advantage of alliances, but there is still no consensus, and no comprehensive framework for measuring it exists (Kleymann & Seristö, 2004).

On the other hand, previous studies have mainly focused on the effects on airlines of global alliance affiliation using historic data. However, panel data analysis has several limitations. Even panel data analysis could not sufficiently consider various factors affecting the result excepting global alliance affiliation. The result may differ depending on the alliance development stage. Previous studies mainly focused on the early and middle-stage of global airline alliances. Such studies found it hard to reflect on current business situations. The timing of measuring the competitive advantages of global airline alliances is a substantial issue. Most of the past studies were based on early and middle-stage competitive advantages of alliances, which means that there are apparent limitations on clarifying their long-term and sustained competitive advantages. Global airline alliances have gradually developed and evolved in response to environmental changes (Goh & Uncles, 2003; Janawade, 2013). Recently, the three existing global airline alliances have had time to reap sustained competitive advantages, because 2020 marks the 23rd anniversary of the formation of Star Alliance (as well as the 21st anniversary of oneworld and the 20th anniversary of SkyTeam), the first and biggest global airline alliance. Therefore, now is the ideal time to measure the competitive advantages of a global airline alliance. Moreover, the aviation industry operates in an extremely volatile climate (Agusdinata & Klein, 2002), so 20 years is long enough to witness substantial variations in individual carrier performance.

The limited accessibility of data is the other problem. Airline performance data is recognized as confidential business information and, as it is related to national and public security, the data is only available if it is voluntarily offered. Besides, many previous studies have pointed out that relevant empirical studies are rare. In addition, there is a lack of comprehensive and novel methods. Namely, relevant previous studies mainly deal with strategic and operational issues on the firms' side. There are various research methods and approaches across several research disciplines, and these methodologies have been useful for measuring the firm side.

1.2. Research question

Based on previous discussions, this study sets two research questions:

RQ1: Currently, do airlines belonging to global alliances outperform non-alliance airlines?

RQ2: Are there differences in competitive advantages among the three global airline alliances?

1.3. Research goal

This thesis sets four research goals:

1. Making clear the current competitive advantages of global airline alliances

2. Clarifying the specific competitive advantage of each global airline alliance

3. Suggesting and introducing a timely, comprehensive, and novel framework for measuring the competitive advantages of a global airline alliance

4. Providing useful and plentiful insight for decision-making and to enhance the understanding of practitioners and aviation policymakers

1.4. Construction of the study

This thesis consists of six chapters. The next chapter focuses on a short overview of the aviation industry and the theoretical background related to the global airline alliance and its competitive advantages. In chapter three, the competitive advantages of a global airline alliance from the supply side are discovered using financial, traffic, and alternative performance indicators. In chapter four, competitive advantages derived from the demand side are analysed and theoretical discussions are carried out using 6393 ordinal and word-of-mouth (WOM) data. In chapter five, the strategic communication of global airline alliances as a competitive advantage is discussed based on quantitative and qualitative content analyses of 46 airlines' CEO letters. In chapter six, conclusions, implications, and limitations of this thesis are described.

2. Literature review

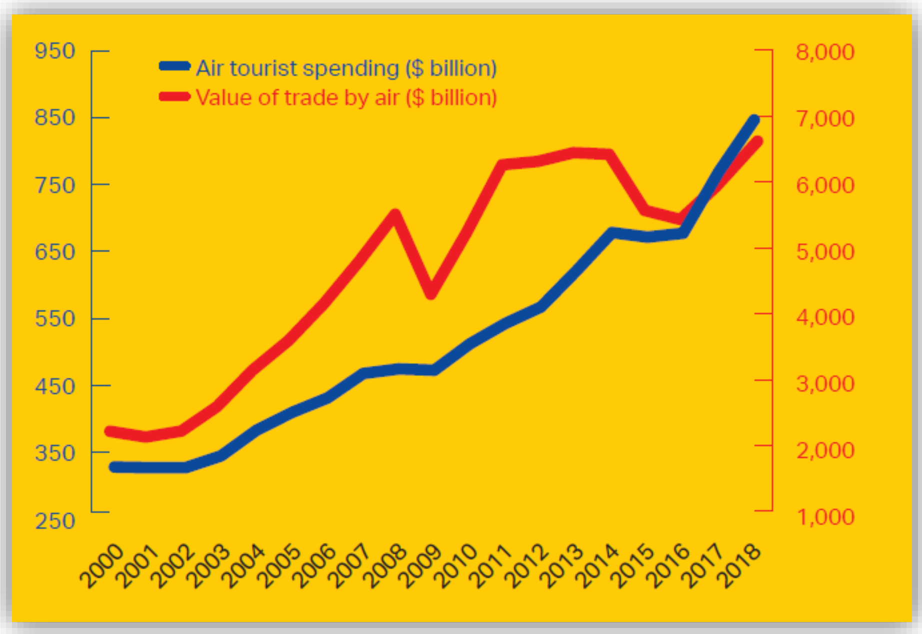
This chapter provides a compact outline of the aviation industry and fundamental knowledge of the competitive advantages of global airline alliances. Firstly, this chapter describes the characteristics of the aviation industry. After that, the definition of an airline alliance, the background of their appearance in the market, the types of airline alliances, the merits and demerits of alliance affiliation, the present conditions of airline alliances, and the definition and theoretical concepts of competitive advantage are discussed.

2.1. Overview of the aviation industry

2.1.1. Importance and present condition of the aviation industry

The aviation industry is a representative core industry of the world with tremendous economic, political, and technological significance, that has developed into a huge industry (Rhoades, 2008; Jangkrajarng, 2011). According to the International Air Transport Association (IATA), about 1% of world GDP was spent on air transport in 2019, which is estimated at almost $900 billion (IATA, 2020 a). Air transport in the world accounted for just less than 1% in 2018, though with a much larger share of world trade by value, of about 33%, or $6.7 trillion (IATA, 2019). Also, many national governments consider air transport, including commercial airlines, as essential actors in the country’s economy and national security (Jangkrajarng, 2011). The commercial aviation industry has been supported by the economic growth and prosperity of the world through tourism and world trade. Globally, air tourists traveling are estimated to have spent $850 billion in 2018. Figure 1 shows the spending and value of the air tourist.

Figure 1. Air tourist spending and value

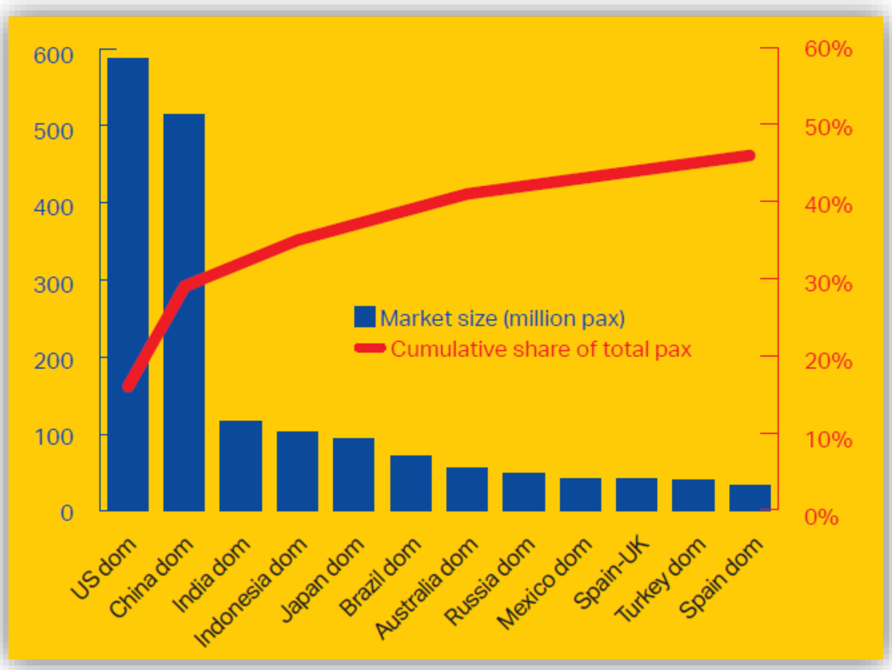


Source: IATA (2019)

The essence of the aviation industry's business is providing transportation services for travelers and cargo. Currently, the aviation industry covers and connects the whole network of domestic and global airway routes (Lin, 2013). Through various functions, the aviation industry enables the flow of people, goods, capital, technology, knowledge, and ideas (IATA, 2020 a).

Currently, the US and China, which both have huge domestic markets, are prominent in the world aviation industry. The US domestic market is the biggest origin-destination (O-D) market in the world. It reached about 58% of the cumulative share of total passengers or 590 million passengers in 2018 (IATA, 2019). China's domestic market comes second, with 515 million passengers in 2018, followed by the Indian domestic market, at 116 million passengers in 2018 (IATA, 2019). Figure 2 indicates the world origin-destination (O-D) market share.

Figure 2. Largest O-D air passenger markets



Source: IATA (2019)

2.1.2. Business models in the airline industry

According to Kleymann & Seristö (2004), airlines adopt three strategies: growth, focus, lowest-cost strategy. The growth strategy means the organizational scale growth of airlines by organic growth, mergers, and acquisitions. Organic growth is growth without mergers or acquisitions. However, organic growth encounters several limitations. In particular, in the aviation industry, regulatory issues act as the main obstacle. Market access to airlines is strictly governed by bilateral agreements. In terms of mergers or acquisitions, mainly financial problems exist. Facing a fluctuating environment, airlines have a customized fleet planning and employment management style, which gives rise to huge integration cost.

Airlines' focus strategy is targeting a niche market. There are geographic niche markets and customer base niche markets.

As disruptive innovation in the aviation industry, the LCC (low-cost carrier) model has attributes that differ from the FSC (full-service carrier) model. LC airlines adopt a cost leadership strategy, while FC airlines pursue differentiation as a generic strategy (Hunter, 2006; Rozenberg et al., 2014). In general, to realize cost reduction, LC airlines operate standardized airplanes, offer only one class of service, and do not offer catering or meal service without an additional fee

(Markides, 2006; Rozenberg et al., 2014). Also, they do not sell tickets using travel agents, but offer direct or online booking reservations. Moreover, LCCs' flight cancellations and schedule changes are limited. In terms of operation, LCCs adopt the point-to-point model, while FSCs adopt the hub and spoke model. Table 1 shows the main characteristics of the FSC and LCC models.

Table 1. Characteristics of FSC and LCC models

Characteristic feature	FSC	LCC
Generic strategy	・Differentiation	・Cost minimisation/cost leadership, entrepreneurial in character
Scale	・Typically large	・Generally smaller, but some major players (e.g. Ryanair, EasyJet)
Operational model	・Hub and spoke/Multiple hub and spoke, linking with feeder routes ・Mix of short/medium/ and long-haul routes ・Various aircraft types and engines ・Moderate capacity utilisation (c. 60%)	・Point to point, no interlining, short sector length (400-600 nautical miles) ・Mainly short haul ・Uniform aircraft type ・High capacity utilisation, (c. 70-80%) rapid turnround between sectors, low margins
Market	・Normally in competition with other FSCs, leading to differentiation by class (quality) of service, with high service image, featuring frequent scheduling & flight flexibility, and extensive in-flight services ・Comprehensive ground services Use of principal airports	・Cheap travel sector of the market, segmentation by time of booking and choice of flight ・Basic quality of service basic ・Typically use secondary airports
Inventory Management	・Pre arranged tickets and seats: reservation system complex, due to feeder routes: use of travel agents	・Inventory management simplified: direct or online bookings, ticketless, no use of travel agents

Source: ITF (2002): Alderighi et al. (2004), Hunter (2006), Rozenberg et al. (2014)

2.1.3. Characteristics of the aviation industry

The characteristics of the aviation industry can be classified into three categories: 1. The high degree of restrictions, 2. vulnerability to environmental changes, 3. fierce competition, highly fixed-cost, and low profitability.

Firstly, the aviation industry is characterized by a high degree of regulation by governments (Jangkrajarng, 2011). Foreign ownership and investments for airlines are controlled by governments. For example, more than 25% of stock acquisition by foreigners is limited in the US, with 31% in Canada, and 49% in EU countries (Jangkrajarng, 2011). The reasons for the restrictions relate to the value and impact of the aviation industry for the national economy and security (Jangkrajarng, 2011). Moreover, the airline industry and airlines often symbolize countries' pride (Jangkrajarng, 2011; Lin, 2013). However, there has been a weakening of regulations. From a historical view, deregulation in the US in the 1970s, privatization in the European airline service industry in the 1980s (Min & the Joo, 2016), and recent moves towards globalization (Oum et al., 2004) have given freedom to airlines in terms of aviation routes and airfares. Also, many governments including the USA have signed open skies agreements that give freedom to their countries' carriers to choose their routes and frequency of flights (Jangkrajarng, 2011; Kakeesh, 2016).

Next, the aviation industry is highly impacted by environmental factors. Fundamentally, the aviation industry is vulnerable to external changes such as a change in the oil price, changes in the demand of global passengers, the effect of disease pandemics, and terrorism attacks (Amernic & Craig, 2004; Seo, 2020). In particular, considering recent cases related to COVID-19 and the global spread of the virus, bankruptcies and financial problems involving even major airlines have frequently occurred. For example, Thai Airways, the flagship airline of Thailand is likely to be restructured under the supervision of a bankruptcy court. Virgin Australia, Australia's second-largest domestic air carrier, is currently near collapse. Table 2 shows the financial and traffic changes before and after the COVID-19 pandemic. Spend on air transport has decreased from $876 billion in 2019 to $434 billion in 2020. Passenger volume and revenue passenger kilometers (RPK) also dropped to nearly half of the previous year (-50.6% and -54.7%).

Table 2. Financial and traffic changes in the aviation industry from 2019 to 2020

Worldwide airline industry	2019	2020
Spend on air transport*, $billion	876	434
% change over year	3.6%	-50.4%
% global GDP	1.0%	0.5%
Return fare, $/pax. (2018$)	317	254
Compared to 1998	-61%	-68%
Freight rate, $/kg (2018$)	1.82	2.31
Compared to 1998	-64%	-54%
Passenger departures, million	4,543	2,246
% change over year	3.8%	-50.6%
RPKs, billion	8680	3929
% change over year	4.2%	-54.7%
CTKs, billion	254	211
% change over year	-3.2%	-16.8%
World GDP growth, %	2.5%	-5.0%
World trade growth, %	0.9%	-12.9%

Source: IATA (2020 b)

The third characteristic is fierce competition and low profitability. In recent years, as a result of radical environmental changes surrounding the airline industry, for example, global economic recession and skyrocketing oil prices, deregulation, the privatization and commercialization of airline service, the global market penetration of new international airlines, etc., competition among airlines has intensified (Jangkrajarng, 2011; Kakeesh, 2016; Min & Joo, 2016; Lin et al., 2018). Moreover, airlines all have a similar business model and offer similar products (Kakeesh, 2016; Seo & Itoh, 2020). Currently, even FS airlines provide slightly lower flight fares, and LCCs have come to face unavoidable all-out competition with FSCs (Hunter, 2006; Rozenberg et al., 2014; Castillo-Manzano et al., 2017). Furthermore, the entry of new global airlines has led to even more fierce competition in the aviation industry. Although the aviation industry plays a significant role in the world economy and has achieved healthy growth over the last few decades, the sunk cost of airlines is still high and their profitability remains low level (Jangkrajarng, 2011; Seo & Itoh, 2020).

2.2. Airline alliances

2.2.1. Definition of an airline alliance

There are various definitions of a strategic alliance according to scholars. Table 3 summarizes definitions of a strategic alliance in previous works.

Table 3. Definitions of a strategic alliance

Previous studies	Definitions
Spekman & Sawhney (1990)	"A type of interorganisational relationship in which the partners make substantial investments in developing a long-term collaborative effort and common orientation toward their individual and mutual goals"
Ireland & Hitt (1992)	"Strategic alliances are cooperative arrangements between two or more firms to improve their competitive position and performance by sharing resources"
Whipple & Frankel (2000)	"A long-term relationship where participants cooperate and willingly modify their business practices to improve joint performance"
Dussauge et al. (2000)	"Arrangements between two or more independent companies that choose to carry out a project or operate in a specific business area by coordinating the necessary skills and resources jointly rather than either operating on their own or merging their operations"
Evans (2001)	"A particular and horizontal form of inter-organizational relationship in which two or more organizations collaborate, without the formation of a separate independent organization, to achieve one or more common strategic objectives"
Gomes-Casseres (2003)	"An alliance is any governance structure to manage an incomplete contract between separate firms and in which each partner has limited control"
Barney (2011)	"A strategic alliance exists whenever two or more independent organizations cooperate in the development, manufacture, or sale of products or service"

Source: the authors' work

Even if, there is no consensus on what exactly a strategic alliance means, however, several common denominators exist: 1. presuming two or more independent firms, 2. existence of a common goal, 3. a mutual agreement. Firstly, presuming two or more independent firms indicates that a strategic alliance is not the same as a merger or acquisition (Dussauge et al., 2000). Also, a strategic alliance does not mean the shaping of a separate independent organization (Evans, 2001). A strategic alliance is formed by only among two or more independent firms (Evans, 2001 ; Gomes-Casseres, 2003 ; Barney, 2011). Secondly, a strategic alliance aims for a common goal among members, which brings positive effects across the business management of firms such as an improvement in the firm's performance (Whipple & Frankel, 2000; Ireland et al., 2002), the achievement of an operational goal (Dussauge et al., 2000), and ensuring strategic goal (Evans, 2001; Ireland et al., 2002). Finally, a strategic alliance assumes a mutual agreement among members (Spekman & Sawhney, 1990; Dussauge et al., 2000; Whipple & Frankel, 2000; Ireland et al., 2002; Barney, 2011).

Traditionally, strategic alliances have been recognized as penetrations by multinational firms into inaccessible markets. Recently, as a strategic option, alliances have been highlighted (Evans, 2001). Strategic alliances are often seen in the pharmaceutical industry, the automobile industry, and the chemical industry.

The airline industry is recognized as a representative industry that frequently forms strategic alliances (Evans, 2001; Morrish & Hamilton, 2002; Gomes-Casseres, 2003; Min & Joo, 2016). In its literal meaning, the phrase "airline alliance" indicates a strategic alliance of airlines. However, it seems that existing studies have viewed an airline alliance as a concept that reflects characteristics of the airline industry rather than just an alliance of airline companies. On the other hand, a global airline alliance assumes an agreement among global airlines and global settings such as global flight routes. Table 4 summarizes definitions of an airline alliance.

Table 4. Definitions of an airline alliance

Previous studies	Definitions
IATA (2001)	"Three or more airlines participating in commercial relationship or joint venture, where a joint and commonly identifiable product is marketed under a single commercial name or brand; and this commercial name or brand is promoted to the public through the airlines participating in the alliance and its agents; and the commercial name or brand is used to identify the alliance services at airports and other service delivery points in situations where bilateral agreements exist, e.g., code share agreement"
Morrish & Hamilton (2002)	"An airline 'alliance' is any collaborative arrangement between two or more carriers involving joint operations with the declared intention of improving competitiveness and thereby enhancing overall performance"
Iatrou & Alamdari (2005)	"A strategic airline alliance is a long-term partnership of two or more firms who attempt to enhance advantages collectively vis-a`-vis their competitors by sharing scarce resources including brand assets and market access capability, enhancing service quality, and thereby improving profitability. A strategic alliance is one involving strategic commitment by top management to link up a substantial part of their respective route networks as well as collaborating on some key areas of airline business"
Jangkrajarng (2011)	"Airline alliance is 'three or more airlines participating in commercial relationship or joint venture, where: i) a joint and commonly identifiable product is marketed under a single commercial name or brand; ii) this commercial name or brand is promoted to the public through the airlines participating in the alliance and its agents, and; iii) the commercial name or brand is used to identify the alliance services at airports and other service delivery points in situations where bilateral agreements exist, for example code share agreements'"
Lin (2013)	"A global airline strategic alliance group is a larger cooperation formed by several airlines in order to obtain strategic advantages in their business operations"
Wang (2014)	"An airline alliance is an agreement between two or more airlines to cooperate on a substantial level"

Source: the authors' work

In this thesis, a global airline alliance is defined as any cooperative and mutual arrangement among two or more global independent airlines to realize their strategic goals and improve their competitive advantages.

2.2.2. Appearance of global airline alliances

Nowadays, across various industries such as the pharmaceutical and chemical, automation, and computer industries, choosing an optimized strategic alliance has become an important task of modern firms for increasing their competitive advantages (Evans, 2001; Morrish & Hamilton 2002; Gomes-Casseres, 2003; Kalligiannis, 2009; Min & Joo, 2016). Also, movement towards liberalization and globalization of trade has accelerated this global trend (Kalligiannis, 2009).

On the other hand, there are various reasons for global alliances emerging in the aviation industry. From a historical view, privatization in the European airline service industry in the 1980s, deregulation in the US in the 1970s (Min & Joo, 2016), and globalization (Oum et al., 2004) gave freedom to airlines in terms of aviation routes and airfares. These changes stimulated the reshaping of airlines' strategies. At that time, a global alliance was a significant upcoming approach along with mergers and acquisitions (M&A). While M&A was too risky and limited by regulatory restrictions, forming an airline alliance became an appropriate alternative to M&A (Kleymann & Seristö, 2004).

As moves to strengthen competitiveness, airlines have participated in global airline alliances. In recent years, as a result of radical environmental changes surrounding the airline industry, for example, global economic recession and skyrocketing oil prices, deregulation, the privatization and commercialization of airline service, and the global market penetration of new international airlines, etc., competition among airlines has intensified (Min et al., 2016; Lin et al., 2018). For these reasons, airlines are required to be competent enough to appeal to customers regarding their own merits (Lin et al., 2016; Lin et al., 2018), and they form international alliances and affiliate with alliances (Min et al., 2016).

Also, faced with changing global passenger demands, airlines sought to widen their global networks. However, due to regulatory restrictions on airline market penetration, an airline cannot meet the demands of passengers alone. Airlines pursue the expansion of route networks, but regulations related to market access by foreign firms exist. Because of this, airlines come to participate in global alliances to expand their market, or to avoid regulatory restrictions while widening global networks (Iatrou & Alamdari, 2005). Participating in a global airline alliance has become an ideal and common strategy for airlines to avoid regulatory restrictions while widening global networks and meeting the change in demand from passengers pursuing “seamless travel” (Park & Zhang, 2000; Iatrou & Alamdari, 2005; Wang, 2014).

On the other hand, participating in global alliances is an inevitable and defensive move for airlines (Kleymann & Seristö, 2004; Iatrou & Alamdari, 2005), because, once alliances are formed, they absorb existing traffic volume into their networks. As a result, airlines need to create a parallel network or participate in existing alliances to keep their traffic (Kleymann & Seristö, 2004).

2.2.3. Types of airline alliances

Barney (2011) has divided strategic alliances into six types depending on the equity level of members’ rights and heterogeneities among members: non-equity alliance, equity alliance, joint venture, symmetric alliance, asymmetric alliance, and mixed alliance. Firstly, a non-equity alliance involves cross-equity holdings among members, and it is directly managed through an agreement among members without making an independent organization. Next, an equity alliance is based on equity investment. On the other hand, a joint venture means that, through investments among members, an independent organization is made. In this case, earnings from the independent organization are shared by alliance members. A symmetric alliance is defined as an alliance through which members pursue a common advantage. For example, it is desirable that a firm which is pursuing economy of scale through an alliance affiliation partners up with firms which are pursuing the same advantage. In contrast, an asymmetric alliance means an alliance through which members pursue different advantages from each other. An asymmetric alliance frequently occurs when a firm adopts strategies aiming at low-cost but new market entry. Through this alliance, mutual learning is stimulated due to members’ heterogeneities. Finally, a mixed alliance is an alliance type that mixes a symmetric alliance and an asymmetric alliance. In the same industry, if there is a high level of uncertainties and risk factors, a symmetric alliance is better than an asymmetric alliance, as a symmetric alliance is more appropriate for managing uncertainties and risk factors. On the other hand, in the case of cross-market and cross-industry partnerships, an asymmetric alliance is preferred.

Dussauge et al. (2000) have classified strategic alliances into two types based on the existence of symmetric contributions among members. Firstly, a link alliance is an alliance where there are sharing and transfer of asymmetric knowledge, and complementary skill among alliance members. Next, a scale alliance is symmetric with a moderate level of knowledge sharing. In this case, significant knowledge transfers are avoided.

Although the types of airline alliance can be classified into the aforementioned classifications, many scholars of the aviation industry have suggested classifications considering characteristics of the aviation industry. Airline alliances can be classified into two categories according to (i) the type of routes and (ii) the type of governance. A parallel alliance indicates an airline alliance in which alliance members' routes overlap, while a complementary alliance means a non-route overlapped alliance (Morrish & Hamilton, 2002). Furthermore, horizontal alliances are long-term and equal collaborative agreements among alliance members, while vertical alliances are non-equal agreements among alliance members (Oum et al., 2004).

2.2.4. Governance of global airline alliances

Across industries, global alliances are subject to horizontal alliances (Teng & Das, 2008). Also, because global alliances consist of heterogeneous members of various cultural and national backgrounds, equity and flexible organization structures are preferred in order to manage the many risks from heterogeneities.

Global airline alliances also presume horizontal agreements (Oum et al., 2004). The horizontal alliance type is better than others when it comes to allowing airlines to deal with environmental changes. Besides, horizontal alliances ensure "high resource heterogeneity" (Teng & Das, 2008).

Evans (2001) suggested five criteria for selecting strategic partners when airlines form alliances and participate in them (Brouthers et al., 1995; Medcof, 1997). The first one is the competence of partners. This means that partners are decided according to financial stability and market status. The second one is the degree to which the partners share the same level of risk. The third one is whether an alliance is well controlled and its operational effectiveness is sufficiently maintained. The fourth criterion is geographic fitness, i.e. there is a tendency to avoid alliances of airlines with overlapping markets. The last criterion is the compatibility of the relevant organizational cultures and operations (Medcof, 1997).

The three prominent global airline alliances have adopted horizontal governance structures. Centering around an alliance headquarters, global airline alliances members have equal rights. Among global airline alliances, oneworld is a pioneer that has introduced a headquarter system for governing an alliance. There are regular members and affiliate members, which consist of regular members' subsidiary firms, and they have equal rights to vote. Although, in the past, Star Alliance and SkyTeam divided memberships into regular members and associate members according to the right to vote, since June 2010, SkyTeam has abolished the differential member system.

Important decision-making for a global alliance is carried out by an alliance committee. An alliance committee is organized by the top-managements of member airline companies, and the chair of the committee is a rotating presidency (PR Newswire, 2010).

The headquarters of global airline alliances play an important role in governing alliance systems. They support both individual members and the whole alliance, and have a coordinating function among members. Headquarters pursue the common interest of members rather than the interest of each member, and support interfirm cooperation, adjustment, and exchange (Toriumi, 2008). For example, Star Alliance Services GmbH supports "Move Under One Roof", the strategy of Star Alliance. Member airlines of Star Alliance assemble in the same airport terminal to share and optimize check-in counters, lounges, and boarding gates (Toriumi, 2008). Since June 2006, centering around All Nippon Airways (ANA), Star Alliance's member airlines have assembled in Kansai International Airport Terminal 1's south wing, to realize the strategy of Star Alliance.

Human resources come from member airlines, and stay in the headquarters of global airline alliances for cooperation roles. Half of Star Alliance Services GmbH's 75 staff are from each member airline (Toriumi, 2008).

Star Alliance Services GmbH has five sectors. Table 5 shows the organization structure of Star Alliance Services GmbH. Figure 3 indicates the governance structure of global airline alliances.

Table 5. Organization structure of Star Alliance Services GmbH

Sector	Task
Business development sector	Coordinating with member airlines and developing products such as round-the-world fares so that passengers can arrive at more destinations faster with more flights
Product & service sector	Coordinating the project "Move Under One Roof" that consolidates member airlines into one airport terminal, improving airport infrastructure such as development and deployment of Star Alliance lounges, improving the convenience of connecting between member companies, and making airport services seamless
Commercial sector	Implementing advertising and promotion. Designing a frequent flyer program
Information technology sector	Responsible for the development of IT infrastructure, including the construction of networks connecting member airlines
Legal & corporate services	Engaging in business related to law and human resources

Source: Toriumi (2008)

Figure 3. Governance structure of global airline alliances

Global airline alliance committee				
Affiliate members	Regular members	Headquaters	Regular members	Affiliate members
None right to vote	Right to vote	None right to vote Coordination and support	Right to vote	None right to vote
Headquarters CEO				
Corporate office				Finance
Business development	Product & services	Commercial sector	Information technology	Legal & corporate services

Source: the author's work

2.2.5. Merits and demerits of airline alliance affiliation of airlines

Great attention has been paid to the advantages and disadvantages of international airline alliances. Advantages of alliances can be classified into two categories: (i) advantages for airlines, and (ii) advantages for passengers. Besides, airlines' advantages include strategic and economic advantages. Prior studies have pointed out that airlines have formed and participated in global alliances to seek strategic business merits. Through affiliation in global airline alliances, airlines enjoy various strategic and economic merits.

Through global alliance affiliation, airlines can achieve various strategic merits. Airlines acquiring rare resources and gaining complementary knowledge, i.e. the know-how of partners, are strategic merits of a global alliance affiliation (Ireland et al., 2002). Airlines can deal with environmental uncertainties, share information, and minimize transaction costs with partners (Ireland & Hitt, 1992). Dyer et al. (2001) pointed out that, through an alliance, an airline can promptly acquire the complementary assets of other airlines. Market penetration and the maintenance of market status, as well as ensuring a stable market are other merits of global alliances (Button et al., 1998). Besides, through an alliance, organizational values are shared among members and brand values are elevated (Min et al., 2016). Unlike with mergers and acquisitions (M&As), airlines participating in global alliances can widen their global networks without direct capital investment and while avoiding existing countries' restrictions and market barriers (Douglas & Tan, 2017). On the other hand, participating in an alliance is a defensive move for an airline (Kleymann & Seristö, 2004; Iatrou & Alamdari, 2005). Namely, global airlines avoid direct competition through an alliance and, conversely, have a close cooperative relationship with strong rivals. Next, airlines expect an improvement in economic and traffic performance, through alliance affiliation. Airlines can decrease input costs and enjoy economic benefits (Oum et al., 2004). Through co-purchasing fleets and fuel, and sharing ground staff, lounge facilities, fleet maintenance fees, and computer reservation systems with alliance partners, airlines can reduce their costs (Button et al., 1998; Oum et al., 2004). According to Iatrou & Alamdari (2005), airline managers have recognized that participation in a global alliance is considered beneficial to an airline's revenue. Zou & Chen (2017) found that the profit margin of a global airline is positively associated with the number of their code-sharing alliance partners. On the other hand, the improvement of seat capacity and revenue has often been discussed (Hannegan et al., 1995; Park, 1997; Kleymann et al., 2001; Wright et al., 2010). Park & Zhang (1998) claimed that an alliance affects the traffic increase of members, and it can improve an airline's profit. Intensive air transport networks become powerful strategic resources that allow alliance partners to feed traffic to each other (Kleymann & Seristö, 2004; Rajasekar & Fouts, 2009) so that the networks absorb a region's traffic volume (Kleymann & Seristö, 2004).

On the other hand, Min et al. (2016) argued that there is no apparent evidence of improvements in operational effectiveness and performance through alliances. Besides, it has been reported that each airline's brand value has declined, flight schedules have become more complex, and operational flexibilities have disappeared, while the higher the degree of cooperation with collaborating airlines, the higher the risk and fixed cost (Kleymann et al., 2001). The number of flight destinations shrinks as alliances monopolize flight routes.

The formation of, and participation in, global airline alliances might also impact passengers, positively or negatively. Passengers can enjoy a lower airfare due to airlines' lower operational costs (Park & Zhang, 1998; Bamberger et al., 2004; Janawade, 2013, Zou & Chen, 2017). Air travelers can enjoy better and extended options (Hannegan & Mulvey, 1995; Goh & Uncles, 2003; Janawade, 2013; Wang, 2014) because global alliances travelers' seamless travel for travelers and offer a variety of flight routes through widening global networks. Extended and integrated alliance lounge access is also beneficial for passengers. Priority members of Star Alliance have available more than 1000 lounges (Star Alliance, 2020), SkyTeam can use 750 Lounges (SkyTeam, 2020), and oneworld has access to 650 lounges worldwide (oneworld, 2020). In addition to these, passengers' convenience can be improved. Decreasing layover times between connections, and increasing non-stop long-haul flights and one-stop check-in for passengers can be realized through better coordination among alliance members (Hannegan et al., 1995). Through an alliance affiliation, the perceived risk of passengers is reduced. When passengers transfer from A airline to B airline, risks related to loss of baggage and missing a transfer flight frequently occur. Due to a closer collaborative relationship between alliance members, several passengers' risks can be reduced (Veldhuis, 1997).

On the other hand, global alliances also have negative effects on air travelers. Due to the characteristic "anti-competitiveness" of global alliances, they harm the overall social surplus, and thereby negatively affect passengers (Brueckner & Pels, 2005). Besides, airlines' destinations shrink as alliances monopolize flight routes (Seo, 2020).

2.2.6. Previous works

Relevant previous studies mainly deal with an alliance affiliation's effect on airlines' operational performances. Besides, such works are based on the airline's side.

Scholars have focused on changes of revenue (Iatrou & Alamdari, 2005), passenger volumes (Park & Zhang, 1998; Park & Zang, 2000; Iatrou & Alamdari, 2005; Min & Joo, 2016), changes of revenue passenger kilometers (RPKs) (Rajasekar & Fouts, 2009; Min & Joo, 2016), load factor (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Lazzarini, 2007; Rajasekar & Fouts, 2009; Assaf & Josiassen, 2011; Min & Joo, 2016), and available seat kilometers (ASKs) (Lazzarini, 2007).

There has been an extensive discussion about global alliances' positive effect on the various aspects of airline performance (Park & Zhang, 1998; Iatrou & Alamdari, 2005; Lazzarini, 2007; Rajasekar & Fouts, 2009). Park & Zhang (1998) compared the traffic volume changes of four airline alliances; British Airways/USAir, Delta/Sabena/Swissair, KLM/Northwest, and Lufthansa/United Airlines, between international alliance routes and non-alliance routes in North Atlantic markets. As a result, they found that global alliances achieved higher traffic increases on alliance routes than on their non-alliance routes. Also, Park & Zhang (2000) examined the impact of four global airline alliances; British Airways/USAir, Delta/Sabena/Swissair, KLM/Northwest, and Lufthansa/United Airlines, on airfares, passenger volume, and consumer surplus using panel data from the 1990-1994 period. They found that global airline alliances affected partner airlines' passenger volume and consumer surplus positively, while airfares were affected negatively. According to Iatrou & Alamdari (2005), airline managers view participation in global alliances as beneficial on traffic and load factor. Lazzarini (2007) has investigated the impact of global alliances on airlines' operational performance. He reported that a global alliance positively affects partner airlines' load factors and ASKs. Rajasekar & Fouts (2009) argued that domestic airlines' load factors and revenue passenger miles (RPMs) have increased through code-sharing agreements with international airlines. Zou & Chen (2017) reported that the profit margin of an airline is positively associated with the number of their code-sharing partners.

Conversely, Morrish & Hamilton (2002) has argued that airlines can achieve only a slight benefit on load factors, general productivity levels, and profit. Oum et al. (2004) found that strategic alliances have no overall significant and positive impact on profitability. Min & Joo (2016) reported that there were no significant differences in airline performance between airlines with alliances and airlines without alliances. Also, there is no evidence that joining alliances brings airlines any performance improvements.

A few studies have examined alliance affiliation's effect on airlines deriving from customers' perceptions. Goh & Uncles (2003) found that 60% of 221 passengers responded that global alliances offer benefits. According to Weber & Sparks (2004), the ease of transfers between flights, smoother baggage handling, one-stop check-in services, and better assistance in case of problems were identified as significant benefits enjoyed by passengers concerning global alliances. Wang (2014) reported that a global airline alliance affiliation positively affects passengers' perceived brand equity, brand preference, and purchase intention.

On the other hand, the network strategies of global airline alliances (Dennis, 2006), factors of an alliance's success (Whipple & Frankel, 2000), differences among mission statements of the three global airline alliances (Seo, 2020; Seo, 2019), human resource management issues of global airline alliances (Holtbrügge et al., 2006), and environmental performance of global airline alliances (Payán-Sánchez et al., 2019) were discussed. Table 6 indicates important previous works in the research stream of global airline alliances.

Table 6. Main research stream relevant to global airline alliances

Perspective	Author	Method	Topic & Finding
Supply-side	Park & Zhang (1998)	Empirical study: econometric models using panel data	Alliance partners have achieved traffic increases on their alliance routes versus their non-alliance routes.
	Park & Zhang (2000)	Empirical study: econometric models using panel data	Airline alliances affected partner airlines' passenger volume and consumer surplus positively, while airfares were affected negatively.
	Morrish & Hamilton (2002)	Review study	Airlines can achieve only a slight benefit on load factors, general productivity levels, and profit.

Source: the author's work

	Oum et al. (2004)	Empirical study: econometric models using panel data	Horizontal alliances positively affect airlines' productivity gains, whereas there were no overall significant and positive impact on the profitability of airlines.
	Iatrou & Alamdari (2005)	Empirical study: questionnaire survey	Airline managers view participation in alliances as beneficial on traffic and load factor.
	Rajasekar & Fouts (2009)	Empirical study: econometric models using panel data	Domestic airlines' load factors and revenue passenger miles (RPMs) have increased through code-sharing agreements with global airlines.
	Min & Joo, (2016)	Empirical study: data envelopment analysis (DEA)	There were no significant differences in airline performance between airlines with alliances and airlines without alliances.
	Zou & Chen (2017)	Empirical study: econometric models using panel data	Profit margin of an airline is positively associated with the number of their code-sharing partners.
Demand-side	Goh & Uncles (2003)	Empirical study: questionnaire survey	Passengers have recognized that the global alliance affiliation of airlines provides various benefits.
	Weber & Sparks (2004)	Empirical study: questionnaire survey	The ease of transfers between flights, smoother baggage handling, one-stop check-in services, and better assistance in case of problems were identified as significant benefits enjoyed by passengers concerning global alliances.
	Wang (2014)	Empirical study: questionnaire survey	A global airline alliance affiliation positively affects passengers' perceived brand equity, brand preference, and purchase intention.

The author found that several research gaps surrounding global airline alliance studies exist. It is still unclear whether currently, global airline alliances have competitive advantages surpassing their rivals and what the specific competitive advantage of each global alliance is.

Previous studies found it hard to reflect on current business situations. On the other hand, alliance affiliation as a defensive move is relatively neglected. In addition to this, there is a lack of relatively comprehensive and novel methods.

2.2.7. Current global airline alliances

In the early stage of the global airline alliance's history, unlike the present, there was only a simple type of bilateral agreement between two airlines, and forming a large scale, multi-lateral agreement crossing borders was very rare (Lin, 2013).

The first appearance of a global airline alliance in the same form as in modern times (namely, involving a large scale, multi-lateral agreement, and international alliances), is differently reported depending on the researcher. Kakeesh (2016) has argued that Wings formed by Northwest and KLM in 1989 was the first global airline alliance. After that, Qualiflyer was formed by Swissair and Austrian Airlines in 1992. Jangkrajarng (2011) has argued that the global airline alliance began in 1989 with the formation of the European Quality Alliance among Air France, SAS, and Swissair. On the other hand, Lin (2013) has reported that the genuine type of global airline alliance appeared in 1997 through the formation of Star Alliance (Air Canada, Lufthansa, Scandinavian Airlines, Thai Airways, and United Airlines). SkyTeam (Aeromexico, Air France, Delta Air Lines, and Korean Air in 2000), and oneworld (American Airlines, British Airways, Canadian Airlines, and Cathay Pacific, Qantas in 1999) have followed.

In the airline industry, the influence of alliances has increasingly been extended (Morrish et al., 2002). Currently, the number of airlines participating in global alliances and the market presence of global airline alliances are increasing. Global airline alliances have grown exponentially (Cobeña et al., 2019; Jangkrajarng, 2011). The members of Star Alliance, the most prominent international airline alliance, have increased from eight airlines in 1998 to twenty-six airlines in 2020. For an airline, joining a global airline alliance has become a typical strategy for maintaining competitiveness (Wang, 2014). Button et al. (1998) suggested that in the future, an airline that failed to be a member of an alliance would be isolated and encounter strategic disadvantages. Therefore, it is expected that the number of airlines participating in alliances will continue to increase (Evans, 2001).

Currently, three major global airline alliances; Star Alliance, SkyTeam, and oneworld have significantly affected the airline service industry (Iatrou & Alamdari, 2005; Lin, 2013; Wang, 2014; Douglas & Tan, 2017). The three alliances carry more than 55% of air passengers and earn 77% of the profit in the airline market. The market share of the three global airline alliances has reached almost 55% (Statista, 2018).

oneworld

Since its formation in 1999, oneworld has achieved the position of third-largest global airline alliance, after Star Alliance and SkyTeam. 13 airlines are participating in the alliance as members; American Airlines, British Airways, Cathay Pacific, FINAIR, IBERIA, Japan Airlines, Malaysia airlines, Quantas, Qatar Airways, Royal Air Maroc, ROYAL JORDANIAN, S7 Airlines, and SriLankan Airlines. Besides, oneworld has 20 affiliate airline members, mainly regional carriers linked to full members.

The oneworld alliance serves more than 1,000 destinations in 170 countries across the world. oneworld member airline's employees come to about 360,000 people. In 2019, more than 535 million passengers used oneworld members' airplanes, and almost 7 billion passengers have been carried since its launch. About 225 million people are oneworld member airline's loyalty program members (oneworld, 2020 b).

According to Kalligiannis (2009), oneworld has the largest market share in the Africa, Oceania aviation market.

SkyTeam

SkyTeam, formed in 2000, is relatively the newest global airline alliance (Kalligiannis, 2009), and the second-largest global airline alliance. Overall, 19 airlines are participating in the alliance as members; AEROFLOT, Aerolíneas Argentinas, Aeroméxico, Air Europa, Air France, Alitalia, China Airlines, China Eastern, Czech Airlines, Delta, Garuda Indonesia, Kenya Airways, KLM, Korean Air, Middle East Airlines, SAUDIA, TAROM, Vietnam Airlines, and XIAMENAIR.

In 2019, the alliance served more than 1,036 destinations in 170 countries across the world. More than 676 million passengers have used SkyTeam members' airplanes. Daily flights have reached 15,445 (SkyTeam, 2020).

"SkyTeam is dedicated to powering the most seamless customer journey of any global alliance. 19 members, working together to connect millions of passengers across an extensive global network. SkyTeam offers the most comprehensive priority services of any alliance, easy and efficient transfers, and the opportunity to earn and redeem miles across all member airlines." (https://www.skyteam.com/en/about)

The above statement of SkyTeam highlights its customer value and the meaning of its existence as a global airline alliance.

According to Lin (2013) and Kalligiannis (2009), SkyTeam has several strengths versus its rivals. The alliance has had a European market and North American power from its beginning. Europe’s largest domestic market share is its apparent major strength. Besides, the alliance has strong hubs such as Paris-CDG (Air France) and Seoul (Korean Airlines), and anti-trust immunity in the US aviation market. SkyTeam is the only global alliance in which three-quarters of the members have antitrust immunities (Kalligiannis, 2009).

Star Alliance

Currently, Star Alliance is the largest global airline alliance. The alliance was formed in 1997. Overall, 26 airlines are participating in the alliance as members; AEGIAN, AIR CANADA, AIR CHINA, AIR INDIA, AIR NEW ZEALAND, ANA (All Nippon Airways), ASIANA AIRLINES, Austrian, Avianca, Brussels Airlines, CopaAirlines, CROATIA AIRLINES, EGYPTAIR, Ethiopian, EVA AIR, LOT POLISH AIRLINES, Lufthansa, SAS (Scandinavian Airlines), Shenzhen Airlines, SINGAPORE AIRLINES, SOUTH AFRICAN AIRWAYS, SWISS, TAP AIR PORTUGAL, THAI Airways, TURKISHI AIRLINES, and UNITED.

In 2019, Star Alliance served more than 1,300 destinations in 195 countries across the world. More than 762 million passengers have used Star Alliance members’ airplanes. Daily flights have reached 19,000 (Star Alliance, 2020).

Table 7 indicates the core values of Star Alliance.

Table 7. Values of Star Alliance

Value	Content
Excellence	We strive to be the best in what we do and to be professional, dynamic and adaptable in the manner in which we do it.
Openness	We are committed to an environment that promotes honest and constructive communication.
Leadership	We strive to be progressive in our work to secure leadership in the industry.
Innovation and change	We embrace change and embed innovation in what we do.
Trust and respect	We aim to create a respectful and meaningful workplace that fosters high ethical standards and that is free of discrimination and harassment, and where employees take pride in their work.
Teamwork	We recognise that teamwork is critical to our success and strive to promote a workplace where ideas and talents are shared.
Talent development	We are committed to continuous learning to realise the full potential of our employees and to retain the best-qualified people.

Source: Star Alliance (https://www.staralliance.com/en/about)

Star Alliance has a strong market presence in Asia and the South American aviation market (Kalligiannis, 2009). The alliance's major advantage is that it has strong hub networks across the world such as Frankfurt, London-Heathrow, Chicago-O'Hare, Singapore, and Bangkok (Lin, 2013). Also, Star Alliance is renowned for its high service quality. They were the world's best global airline alliance, selected by Skytrax, in 2017 and 2018.

Although Star Alliance seems a well-established and well-managed global airline alliance, its huge size might act as an obstacle (Kalligiannis, 2009) due to difficulty and complexity of managing and communicating among members (Ginevičius, 2010).

The following tables 8 and 9 present the key traffic indicators and members of the three global airline alliances.

Table 8. Key traffic indicators of global airline alliances

	oneworld	SkyTeam	Star Alliance
Members	13	19	26
Destinations	1,000＋	1,036	1,300＋
Countries	170	170	195
Daily departures	12,738	15,445	18,800
Annual passengers (Million)	535＋	676＋	760＋
Market share	16.4%	19.2%	23.5%
Launch date	1998	2000	1997
Headquarters	New York	Amsterdam	Frankfurt
Revenue (US $)	$132 billion	$156 billion	$194 billion

Source: oneworld (2020 c), SkyTeam (2020 b), Star Alliance (2020 b), Statista (2017)

Table 9. Members of the three global airline alliances

Alliance	Airlines
oneworld	American Airlines, British Airways, Cathay Pacific, FINAIR, IBERIA, Japan Airlines, Malaysia airlines, Quantas, Qatar Airways, Royal Air Maroc, ROYAL JORDANIAN, S7 Airlines, SriLankan Airlines
SkyTeam	AEROFLOT, Aerolíneas Argentinas, Aeroméxico, Air Europa, Air France, Alitalia, China Airlines, China Eastern, Czech Airlines, Delta, Garuda Indonesia, Kenya Airways, KLM, Korean Air, Middle East Airlines, SAUDIA, TAROM, Vietnam Airlines, XIAMENAIR
Star Alliance	AEGIAN, AIR CANADA, AIR CHINA, AIR INDIA, AIR NEW ZEALAND, ANA (All Nippon Airways), ASIANA AIRLINES, Austrian, Avianca, Brussels Airlines, CopaAirlines, CROATIA AIRLINES, EGYPTAIR, Ethiopian, EVA AIR, LOT POLISH AIRLINES, Lufthansa, SAS (Scandinavian Airlines), Shenzhen Airlines, SINGAPORE AIRLINES, SOUTH AFRICAN AIRWAYS, SWISS, TAP AIR PORTUGAL, THAI Airways, TURKISHI AIRLINES, UNITED

Source: oneworld (2020 b), SkyTeam (2020 b), Star Alliance (2020 b)

2.3. Competitive advantage

2.3.1. Definitions of competitive advantage

A competitive advantage is a capability of a firm to create more economic value than competitors (Peteraf & Barney, 2013) and "the degree to which a firm has exploited opportunities, neutralized threats and reduced costs" (Newbert, 2008, p. 752). Thus, an airline's competitive advantages indicate whether the airline outperforms its rivals or not (Peteraf & Barney, 2013; Sigalas et al., 2013). According to Chaharbaghi & Lynch (1999), a competitive advantage has traditionally been recognized as the attributes and resources of a firm that allow it to outperform others in the same industry (Porter, 1980; Kay, 1994).

Scholars have pointed out that it is necessary to distinguish between a corporate competitive advantage and corporate performance (Powell, 2001; Sigalas et al., 2013). Sigalas et al. (2013) argued that a competitive advantage means competitiveness above average in the same industry, while a superb performance of a firm indicates performance above average in the same industry. Newbert (2008) suggests that there is a positive correlation between obtaining a competitive advantage and a firm's outstanding performance. In other words, a firm's performance is a parameter measuring a competitive advantage so that if a firm has a competitive advantage, it comes out in a firm's performance (Powell, 2001; Newbert, 2008; O'Shannassy, 2008). The following shows the conceptual relationships between competitive advantage and a firm's performance.

Proposition p: Firm i achieved sustained superior performance.
Proposition q: Firm i had one or more sustainable competitive advantages.

(1) p $\supset$ q (if p then q; if firm i achieved a sustained superior performance, then firm i had one or more sustainable competitive advantages)
(2) q $\supset$ p (if q then p; if firm i had one or more sustainable competitive advantages, then firm i achieved a sustained superior performance)
(3) p ≡ q (p if and only if q; or if p then q, and if q then p)

Source: Powell (2001)

Strategic management theories have adopted the concept of competitive advantage to explain a firm's performance. Also, many empirical studies have tried to estimate the existence of competitive advantages from firms' performances (Powell, 2001).

Although past studies have only highlighted a firm's economic performance from the supply side, nowadays, a firm's business growth and survival do not depend only on its economic outputs, but also on its invisible assets such as customer value and organizational ability. Thus, this study deals with competitive advantage as the set of comprehensive resources and relative strong points of a firm compared with its competitors. In this thesis, the competitive advantage of a global airline alliance is defined as the collective capability of an alliance to create more value (economic, traffic, customer value, and so on) than competitors.

Porter (1980) stated that firms have to add greater value to their products and services than competitors and make their supply chains support their general strategy. Also, he pointed out that firms should not get "stuck in the middle" between a differentiation strategy and a cost-leadership strategy, and that firms establishing and maintaining a clear generic position in their product market can obtain competitive advantages. On the other hand, a resource-based view, learning theory, and core competence theory explain that sustainable competitive advantage is created by a value-creating strategy that cannot be imitated by competitors (Barney, 1991). The value and rareness of resource holding firms are crucial factors in a sustainable competitive advantage (O'Shannassy, 2008).

Competitive advantages can be classified into two categories: (i) temporary competitive advantages, and (ii) sustained competitive advantages. A temporary competitive advantage is "a competitive advantage that lasts for a short period. A sustained competitive advantage, on the other hand, can last much longer" (Barney, 2011, p. 16). In Barney's early work (Barney, 1991), a sustained competitive advantage did not refer to a period of calendar time. Rather, he thought that "whether or not a competitive advantage is sustained depends upon the possibility of competitive duplication" (Barney, 1991) (p. 102). On the other hand, in Jacobsen (1988), "sustained" or "longer time" is recognized as a time-series. In his work, 20 years of return-on-investment (ROI) data of companies listed on the New York and American Stock Exchanges were analyzed. An airline's fundamental motive for participating in an alliance is gaining a sustainable competitive advantage (Albers et al., 2005).

2.3.2. Theories of competitive advantage

The pioneer of the firm's competitive advantage theory is Michael Porter (O'Shannassy, 2008). According to Stonehouse & Snowdon (2010), Porter has suggested an innovative framework for a firm's strategy analyzing competition in the same market. This framework includes 'five forces', 'generic strategy', and 'value chain' in his early works, *Competitive Strategy* (1980), and *Competitive Advantage* (1985). This framework is still recognized as one of the main important strategic frameworks for firms. The five forces are a useful tool for evaluating potential profit and positioning in an industry through the analysis of "competitive rivalry", "bargaining power of suppliers", "bargaining power of customers", "the threat of new entrants", and "the threat of substitute products or services" (Porter, 1980). A firm's profit depends on the increase and decrease of rivals, the degree of the barrier to entry, the existence of substitute products or services, and the degree of transaction power of customers and suppliers. Porter (1985) has pointed out that firms can produce superior performance by optimizing their value chain and developing a "generic strategy" based on "differentiation strategy" or "cost-leadership strategy". To realize a cost-leadership strategy, a firm should produce products or services at a lower price than its rivals. Differentiation strategy refers to a firm making customers believe that the firm's products are better than its rivals' products. If a firm adopts a differentiation strategy, it adopts a high-price policy based on its brand, high-quality products, and high product performance. On the other hand, "focus strategy" refers to a firm adopting a cost-leadership strategy or differentiation strategy in a niche market. Porter (1985) has argued that firms should adopt a clear strategic direction (cost-leadership strategy or differentiation strategy), and if firms are "stuck in the middle", they are embracing a high risk of failure.

Since the 1990s, following Porter, resource-based schools of strategic management, core competence theory, learning theory, and knowledge-based schools of strategic management have emerged (Stonehouse & Snowdon, 2010). They have criticized Porter's competitive advantage theory as not sufficiently considering the rapidly changing environment. In particular, they have pointed out that Porter's theory can hardly explain the appearance of Japanese companies that integrate differentiation strategy and cost-leadership strategy well. They have argued that a firm's competitive advantage is derived from "core competencies" or "distinctive capabilities" originating inside firms. Namely, firms should foster competencies based on their unique experience of dealing with environmental change and on the lessons learned over the long term.

Many theoretical frameworks have explained global airline alliances' competitive advantages. From a transaction cost economics (TCE) perspective, global alliances can help firms effectively deal with environmental uncertainty and decrease transaction costs with partners. By increasing the 'symmetry of information flows' between partners and stakeholders, participating in a global alliance links to competitive advantages (Ireland et al. 2002).

On the other hand, the resource-based view suggests that alliance partners can share financial, technological, physical, and managerial resources (Ireland et al. 2002). These scarce and complementary resources, which are necessary for firms' survival and growth, allow firms to achieve competitive advantages (Dussauge et al., 2000; Oum et al., 2004; Payán-Sánchez et al., 2019). Also, a firm is a collection of heterogeneous resources, and sustained resource heterogeneity is an essential source of competitive advantage (Das & Teng, 2000). Global alliances accelerate firms' resource heterogeneity because they are composed of heterogeneous partners from various locations. Organizational learning theory suggests that global alliances can be a strategic tool for firms' learning and knowledge transfer. This knowledge can become the source of a sustainable competitive advantage (Oum et al., 2004; Barney, 2011).

To obtain a corporate competitive advantage, firms choose vertical integration and diversification strategies, mergers & acquisitions (M&A), and strategic alliances as firm-level strategies (Barney, 2011). In particular, competition among firms has changed from firm-level competition to group-level competition (Gomes-Casseres, 2003; Morrish & Hamilton, 2002; Ireland & Hitt, 2002; Whipple & Frankel, 2000), and strategic alliances have attracted attention as a tool for ensuring competitive advantage. Through a global alliance, airlines obtain resources related to sustainable competitive advantages such as skills, technologies, and knowledge that could not be held before (Whipple & Frankel, 2000). Airlines can deal with environmental uncertainties, share information, and minimize transaction costs with partners (Ireland & Hitt, 2002). Moreover, according to Oum et al. (2004), airlines can decrease input costs and enjoy economic benefits (Oum et al., 2004).

The author notes that this thesis was written based on the aspects of the resource-based view with considering various research streams relevant to a firm's competitive advantage.

2.3.3. Global airline alliances and competitive advantage

Past studies have pointed out that airlines have formed and participated in global alliances to seek strategic and economic merits. Scholars have pointed out that various competitive advantages can be gained for airlines through a global alliance. These competitive advantages will appear in the form of changes to a firm's performance, namely increased revenue (Hannegan & Mulvey, 1995; Oum et al., 2004; Iatrou & Alamdari, 2005), effects of increased capital input (Button et al., 1998), cost cutting effects of sharing human resources and facilities (Button et al., 1998; Iatrou & Alamdari, 2005; Oum et al., 2004; Wang, 2014; Douglas & Tan, 2017), minimization of transaction costs (Ireland et al., 2002), economies of scale (Oum et al., 2004), economies of scope (Oum et al., 2004; Wang, 2014), increase of passengers (Hannegan & Mulvey, 1995) and traffic (Hannegan & Mulvey, 1995; Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005), load factors (Hannegan & Mulvey, 1995; Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005), expansion of route network (Iatrou & Alamdari, 2005; Wang, 2014; Douglas & Tan, 2017), and circumvention of legal barriers and regulations (Button et al., 1998; Morrish & Hamilton, 2002). Besides, as advantages for customers, the following have been pointed out: declining airfares, reduced flight times and layover times, optimized connections, sharing of alliance lounges and integrated mileages among members (Wang, 2014), and flexed flight schedules (Hannegan & Mulvey, 1995). These merits of global airline alliances ultimately link to competitive advantages of airlines (Whipple & Frankel, 2000; Ireland et al., 2002; Morrish & Hamilton, 2002; Kleymann & Seristö, 2004; Oum et al., 2004; Albers et al., 2005; Rajasekar & Fouts, 2009; Min & Joo, 2016; Douglas & Tan, 2017; Payán-Sánchez et al., 2019).

Through a global alliance, airlines can deal with environmental uncertainties, share information, and minimize transaction costs (Ireland et al., 2002). Airlines also obtain resources related to sustainable competitive advantages such as skills that could not be acquired before, technologies, capital, and market access (Whipple & Frankel, 2000). Moreover, according to Oum et al. (2004), airlines can share airport facilities, ground staff, and baggage claim services with alliance members, and they can decrease inputs to enjoy economic value (Oum et al., 2004).

Although scholars have focused on issues relative to global airline alliances, several research gaps surrounding global airline alliances exist. Many previous studies have pointed out that relevant empirical studies are rare. In addition to this, there is a lack of comprehensive and novel methods. Also, although there are three prominent global alliances (e.g., oneworld, SkyTeam, and Star Alliance), it is unclear what the specific competitive advantage of each global alliance is.

Considering these research gaps, in the next chapter, the competitive advantages of a global airline alliance from the supply side are investigated using financial, traffic, and alternative performance indicators. In chapter four, competitive advantages derived from the demand side are analyzed, and theoretical discussions are carried out using ordinal data and word-of-mouth (WOM) data. In chapter five, the strategic communication of global airline alliances as a source of competitive advantage are assessed by means of quantitative and qualitative content analyses of 46 airlines' CEO letters. In chapter six, the conclusions, implications, and limitations of this thesis are summarized.

3. Measuring the competitive advantages of global airline alliances

3.1. Introduction

An global alliance is any cooperative arrangement among two or more global firms to enhance their competitive advantages and achieve their strategic goals. Over the past several decades, it has become generally recognized that competition has evolved from firms to global alliance groupings (Whipple & Frankel, 2000; Ireland et al., 2002; Morrish & Hamilton, 2002; Gomes-Casseres, 2003). The airline industry is also unexceptional in this phenomenon. According to Gomes-Casseres (2003), the airline industry is one of the industries that most frequently forms global alliances along with automobiles, telecommunications, and the computer industry. Currently, global airline alliances have grown exponentially (Cobeña et al., 2019). The members of Star Alliance, the most prominent global airline alliance, have increased from eight airlines in 1998 to twenty-six airlines in 2020. For an airline, joining a global airline alliance has become a typical strategy for maintaining competitiveness (Wang, 2014).

There are various reasons for global alliances emerging in the airline industry. From an historical view, privatization in the European airline service industry in the 1980s, deregulation in the US in the 1970s (Min & Joo, 2016), and globalization (Oum et al., 2004) gave freedom to airlines in terms of aviation routes and airfares. These changes stimulated the reshaping of airlines' strategies. At that time, a global alliance was a significant upcoming approach along with mergers and acquisitions (M&A). While M&A was too risky and limited by regulatory restrictions, forming an airline alliance became an appropriate alternative to M&A (Kleymann & Seristö, 2004). Also, faced with changing global passenger demands for 'seamless travel' (Park & Zhang, 2000), airlines sought to widen their global networks. However, due to regulatory restrictions on airline market penetration, an airline cannot meet the demands of passengers alone. To avoid regulatory restrictions while widening global networks, airlines participate in global alliances (Iatrou & Alamdari, 2005). On the other hand, participating in global alliances is an inevitable and defensive move for airlines (Kleymann & Seristö, 2004; Iatrou & Alamdari, 2005), because, once alliances are formed, they absorb existing traffic volume into their networks. As a result, airlines need to create a parallel network or participate in existing alliances to keep their traffic (Kleymann & Seristö, 2004).

Prior studies have pointed out that airlines have formed and participated in global alliances to seek strategic business merits. For airlines, global alliances are a significant strategic resource and a tool of learning (Ireland et al., 2002). Through a global alliance, an airline can expand its global service network reach (Douglas & Tan, 2017) and strengthen its status in the competitive market (Oum et al., 2004). Through co-purchasing fleets and fuel, and sharing ground staff, lounge facilities, fleet maintenance fees, and computer reservation systems with alliance partners, airlines can reduce their costs (Button et al., 1998; Oum et al., 2004).

These merits of global alliances link to airlines' competitive advantages (Ireland et al., 2002; Morrish & Hamilton, 2002; Kleymann & Seristö, 2004; Oum et al., 2004; Albers et al., 2005; Rajasekar & Fouts, 2009; Douglas & Tan, 2017; Payán-Sánchez et al., 2019). An airline's fundamental motive for participating in an alliance is gaining a sustainable competitive advantage (Albers et al., 2005). Through a global alliance, airlines obtain resources related to sustainable competitive advantages such as skills, technologies, and knowledge that could not be held before (Whipple & Frankel, 2000). Airlines can deal with environmental uncertainties, share information, and minimize transaction costs with partners (Ireland et al., 2002). Moreover, according to Oum et al. (2004), airlines can decrease input costs and enjoy economic benefits (Oum et al., 2004).

Although, strategic management theories have often adopted the concept of competitive advantage to explain a firm's performance, and many empirical studies have tried to estimate the existence of competitive advantages from firms' performances (Powell, 2001), there is still no consensus, and no comprehensive framework for measuring it exists (Kleymann & Seristö, 2004).

Moreover, when measuring the competitive advantages of global airline alliances, timing is important. 2020 marks the 23rd anniversary of the formation of Star Alliance, the first global airline alliance. In other words, global airline alliances have now had time to continuously evolve and reap long-term and sustained competitive advantages, so now is the ideal time to measure their competitive advantages.

Finally, even though it is recognized that three global airline alliances; oneworld, SkyTeam, and Star Alliance have been predominant for a long time (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Holtbrügge et al., 2006; Wang, 2014; Douglas & Tan, 2017), little research has focused on their relative competitive advantages. The three global airline alliances carry more than 55% of air passengers and earn 77% of the profit in the airline market. The market share of the three international airline alliances has reached almost 55% (Statista, 2018).

These research gaps can be bridged by investigating global airline alliances' competitive advantages with a timely and comprehensive framework. Based on previous discussions, this study sets two research questions:

RQ1: Currently, do airlines belonging to global alliances outperform non-alliance airlines?
RQ2: Are there differences in performance among the three global airline alliances?

This chapter consists of five sections. The next section focuses on the theoretical background related to global airline alliance's competitive advantages and critical performance indicators in order to set hypotheses and analyse variables. In section three, the Mann-Whitney U test and the Kruskal-Wallis H test are performed using 604 airline data. In section four, based on results, theoretical discussions are carried out. In section five, conclusions, implications, and limitations are described.

3.2. Theoretical background

What are an alliance's competitive advantages composed of, and how can measure an alliance group's collective competitive advantages? A firm's significant sources of competitive advantage are technical capabilities, managerial capabilities, experience, quality, cost, and time. Traditionally, strategic alliance competitive advantage has been measured in terms of survival or duration, stability in the case of a multi-partner arrangement, and stock market reactions to alliance announcements (Kleymann & Seristö, 2004). An alliance's competitive advantage can be defined as a relatively high economic value created by an alliance grouping compared to competitors. Although some accounting methods are simple, they have been recognized as useful. Barney (2011) suggested that accounting methods such as return on assets (ROA), return on equity (ROE), and Tobin's q can be useful tools to measure alliances' competitive advantages. Operating revenue is also used as a measure of airline alliances' competitive advantage (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Min & Joo, 2016).

However, there are shortcomings when only adopting financial indicators of global airline alliances. These indicators do not reflect the airline industry's characteristics, such as the volume of traffic. Therefore, scholars have focused on passenger volumes (Park & Zhang, 1998; Park & Zang, 2000; Iatrou & Alamdari, 2005; Min & Joo, 2016), changes of revenue passenger kilometers (RPKs) (Rajasekar & Fouts, 2009; Min & Joo, 2016), load factor (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Lazzarini, 2007; Rajasekar & Fouts, 2009; Assaf & Josiassen, 2011; Min & Joo, 2016), and available seat kilometers (ASKs) (Lazzarini, 2007). In addition to these, global alliances' effects on firms' service ratings (Min & Joo, 2016) and firms' environmental performance (Payán-Sánchez et al., 2019) have been analyzed.

Hence, this study adopts a comprehensive set of key indicators as measures of competitive advantage; operating revenues, passenger traffic volumes, RPKs, load factors and efficiency, which have commonly been used in prior studies.

3.2.1. Global airline alliances and financial competitive advantage

Many theoretical frameworks have explained global airline alliances' competitive advantages. From a transaction cost economics (TCE) perspective, global alliances can help firms effectively deal with environmental uncertainty and decrease transaction costs with partners. By increasing the 'symmetry of information flows' between partners and stakeholders, participating in global alliance links to competitive advantages (Ireland et al. 2002). On the other hand, the resource-based view suggests that alliance partners can share financial, technological, physical, and managerial resources (Ireland et al. 2002). Also, a firm is a collection of heterogeneous resources, and sustained resource heterogeneity is an essential source of competitive advantage (Das & Teng, 2000). Global alliances accelerate firms' resource heterogeneity because they are composed of heterogeneous partners from various locations. Organizational learning theory suggests that global alliances can be a strategic tool for firms' learning and knowledge transfer. This knowledge can become the source of a sustainable competitive advantage (Oum et al., 2004; Barney, 2011).

Iatrou & Alamdari (2005) analyzed perceived impacts by airlines belonging to four alliances: Wings, Star Alliance, oneworld, and SkyTeam. Participation in international alliances is considered beneficial to their revenue. Park & Zhang (1998) claimed that an alliance affects the traffic increase of members, and it can improve an airline's profit. Hence, the author expects that airlines belonging to global alliances outperform non-alliance airlines' operating revenue.

Based on the above, this research suggests the following hypothesis:

H1. Airlines belonging to global alliances outperform non-alliance airlines' operating revenue.

3.2.2. Global airline alliances and traffic competitive advantage

Airlines can achieve an increase in traffic through a global alliance as partners can feed traffic to each other across the world (Rajasekar & Fouts, 2009).

Park & Zhang (1998) compared the traffic volume changes of four airline alliances; British Airways/USAir, Delta/Sabena/Swissair, KLM/Northwest, and Lufthansa/United Airlines between international alliance routes and non-alliance routes in North Atlantic markets. As a result, they found that global alliances achieved higher traffic increases on alliance routes than on their non-alliance routes. Also, Park & Zang (2000) examined the impact of four airline alliances; British Airways/USAir, Delta/Sabena/Swissair, KLM/Northwest, and Lufthansa/United Airlines using panel data from the 1990-1994 period on airfares, passenger volume, and consumer surplus. They found that airline alliances affect partner airlines' passenger volume and consumer surplus positively, while airfares were affected negatively. According to Iatrou & Alamdari (2005), airline managers view participation in global alliances as beneficial on traffic and load factor. Lazzarini (2007) has investigated the impact of global alliances on airlines' operational performance. He reported that a global alliance positively affects partner airlines' load factors and ASKs. Rajasekar & Fouts (2009) argued that domestic airlines' load factors and revenue passenger miles (RPMs) have increased through code-sharing agreements with global airlines.

Accordingly, this study suggests the following hypotheses:

H2. Airlines belonging to global alliances outperform non-alliance airlines' passenger traffic.
H3. Airlines belonging to global alliances outperform non-alliance airlines' RPKs.
H4. Airlines belonging to global alliances outperform non-alliance airlines' load factor.

3.2.3. Global airline alliances and alternative measurements

It has been pointed out that prior measures are limited as they ignore many important 'soft' and 'invisible' assets. These assets are today's drivers of a firm's maintenance of business success and growth (Kleymann & Seristö, 2004).

It is necessary to discuss global alliances' environmental effect in the airline industry as airline fleets produce CO_2 while transporting passengers and cargos, and affect the global environment directly. There is no doubt that current firms are embracing more responsibility towards society and communities than ever before, especially in relation to the natural environment issue (Seo & Itoh, 2019). Therefore, using the efficiency of airlines, it is possible to measure alliances' collective environmental performance and endeavors. Payán-Sánchez et al. (2019) reported that participating in global alliances negatively related to airlines' environmental performance. However, considering that alliances set relatively common strategic goals among partners versus non-alliance airlines, and global alliances promote social legitimacy by providing access to the sustainable technology of partners (Payán-Sánchez et al., 2019), the thesis expects that global alliances' environmental performance will be better than non-alliance airlines.

As a result, this research suggests the following hypotheses:

H5. airlines belonging to global alliances outperform non-alliance airlines' efficiency

3.2.4. Comparing the competitive advantages of leading global airline alliances

It is possible that each alliance has various attributes and competitive advantages, so it makes a difference in their performance.

Even though a global airline alliance has a horizontal structure, and is a loosely combined organization (Kleymann & Seristö, 2004), it is a particular organizational group created to pursue a particular strategy. Therefore, their performance will differ depending on the type of strategy they adopt and on the interaction between partners (Gomes-Casseres, 2003). For instance, a mission statement has a significant meaning as the initial and essential step in an airline's strategic planning and decision-making process. A mission statement is a company's ideal future, which defines the strategic direction (Law & Brenznik, 2018) and a general expression of a company's purpose (Kemp & Dwyer, 2003). The strategic management process begins when a firm defines its mission clearly because firms set their objectives and conduct strategic choices based on a mission, and these processes finally achieve a firm's competitive advantage (Barney, 2011). Pearce & David (1987) found that high performers' mission statements include more component numbers than low performers among Fortune 500 companies. According to Seo & Itoh (2019), the high performers more often highlighted "self-concept" and "public image" than low performers in the 491 Fortune companies they studied. These findings suggest there is an important co-relation between a firm's strategic direction and its performance. Seo (2020) reported that there are significant differences among global airline alliances' mission statements regarding contents and component numbers. Thus, the performances of alliances might differ depending on the type of strategy they adopt and on the interaction between partners.

On the other hand, differences in alliance members' integration levels and the number of members might link to differences in performance. Prior studies mentioned that Star Alliance is the most integrated airline network (Kleymann & Seristö, 2004; Holtbrügge et al., 2006). One of the vital strategies of Star Alliance is to "move under one roof. " This strategy involves bringing alliance partners to the same hub airport terminal to share alliance partners' services such as standard check-in, transfer and baggage facilities, and smoother connections.

Also, the different number of global alliances' members might affect their relative performance. The growth of the number of cooperating members improves their effectiveness and performance due to the potential of networks to increase the activity of each member but if the network becomes too large, cooperation becomes challenging to control and communicate among members. Min & Joo (2016) found that the performances of oneworld and SkyTeam were better than that of the larger Star Alliance group.

Based on the above, the thesis expects alliances' performances to differ.

H6. The three global airline alliances' operating revenue differs.
H7. The three global airline alliances' passenger traffic differs.
H8. The three international airline alliances' RPKs differ.
H9. The three international airline alliances' load factor differs.
H10. The three international airline alliances' efficiency differs.

3.3. Methodology

3.3.1. Measurement

This study uses airline operating revenue, passenger volume, RPKs, load factor, and efficiency data to measure the supply-side's competitive advantage of both alliance groups and non-alliance groups. As with relevant previous works, this thesis has tried to estimate the existence of competitive advantages from firms' performances.

Operating revenue is the income that an airline earns per year in its operations. Passenger volume indicates the number of passengers. Revenue passenger kilometers (RPKs) is the number of passengers carried multiplied by the distance flown (Lazzarini, 2007), which is a popular measure of traffic volume in the airline industry (Min & Joo, 2016). Load factor indicates fleet capacity utilization (Lazzarini, 2007; Rajasekar & Fouts, 2009). Finally, "efficiency" indicates the degree of efficiency of an airline operation from point A to B. Also, through this latter index, an airline's environmental competitive advantage can be estimated because the higher the efficiency, the lower the CO_2 emissions. Table 10 indicates the definitions of variables.

Table 10. Definitions of variables

Variables	Definition and description	Source
Alliance affiliation	It shows whether an airline belongs to global alliances or not. The dummy is equal to 1 if an airline participates in one of the three global alliances; oneworld, SkyTeam, and Star Alliance, and equal to 0 if an airline is not a member of these alliances.	Global alliances webpages
Alliance type	The global alliance that an airline belongs to. 1 indicates oneworld member airlines, 2 indicates SkyTeam members, and 3 indicates Star Alliance partners.	Global alliances webpages
Operating revenue	The income that an airline earns per year in its operations	Flightglobal (see appendix 1)
Passenger volume	An airline's annual passenger numbers	Flightglobal (see appendix 1)
RPKs	The number of passengers carried by an airline multiplied by the distance flown	Flightglobal (see appendix 1)
Load factor	An indicator of an airline's fleet capacity utilization	Flightglobal (see appendix 1)
Efficiency	The degree of efficiency of an airline's operation from point A to B	Atmosfair (see appendix 3)

Source: The authors' work

3.3.2. Sample and data collection

To determine a normal distribution and homogeneity of data variance, the Kolmogorov-Smirnov test, the Shapiro-Wilk test, and Levene's test were implemented. As a result, not all of the data could pass the standard of a normal distribution and homogeneity. Thus, the Mann-Whitney U test was adopted for comparisons between the alliance group and the non-alliance group, while the Kruskal-Wallis H test was adopted for comparisons among the three alliances. The level of statistical significance is p<0.05.

The thesis collected airlines' operating revenue data from the leading airline groups by revenue in Flightglobal's world airline rankings 2018. Among the 67 leading airlines by revenue, 39 airlines belong to global alliances, while 28 airlines do not participate in global alliances. Among alliance members, nine airlines, 12 airlines, and 18 airlines participate in oneworld, SkyTeam, and Star Alliance respectively. This study used passenger volume, RPKs, and load factor data from the leading airline groups by traffic in Flightglobal's world airline rankings 2018. Of the 104 leading airlines by traffic, 47 airlines belong to global alliances, while 57 airlines do not. Among airlines participating in global alliances, 12 airlines, 14 airlines, and 21 airlines belong to oneworld, SkyTeam, and Star Alliance. In terms of airline efficiency data, the author collected the efficiency points from the Atmosfair airline index 2018. The Atmosfair airline index provides 125 airlines' efficiency rankings including 75 airlines which belong to international alliances and 50 airlines that do not. Among the 75 airlines, 19 airlines, 21 airlines, and 35 airlines belong to oneworld, SkyTeam, and Star Alliance.

Table 11 shows descriptive data of airline attributes.

Table 11. Descriptive data of airline attributes

	Operating revenue	**Passenger volume**	**RPKs**	**Load factor**	**Efficiency**	**Total**
Airlines belonging to alliances	39	47	47	47	75	309
(oneworld)	*9*	*12*	*12*	*12*	*19*	*79*
(SkyTeam)	*12*	*14*	*14*	*14*	*21*	*87*
(Star Alliance)	*18*	*21*	*21*	*21*	*35*	*143*
Non-alliance airlines	28	57	57	57	50	295
Total	67	104	104	104	125	604

Source: the author' work

Initially, this study conducted Mann-Whitney U tests using IBM SPSS Statistics 23 between airlines belonging to global alliances and airline groups that do not participate in global alliances. This was done in order to shed light on whether current global airline alliances have competitive advantages versus non-alliance airlines, and whether participating in global alliances is beneficial for airlines' defensive objectives. After that, the author performed Kruskal-Wallis H tests to compare the three alliances' financial, traffic, and alternative performance using IBM SPSS Statistics 23 to make clear what each alliance's competitive advantage is.

3.4. Results and discussion

The Mann-Whitney U tests were performed to demonstrate whether airlines that belong to global alliances outperform non-alliance airlines. Alpha levels of $p<0.05$, $p<0.01$ were accepted as significant.

Table 12 indicates the results of Mann-Whitney U tests. The author found that airlines participating in global alliances significantly outperformed non-alliance airlines in operating revenue ($U=288.000$, $p<0.01$), and RPKs ($U=805.000$, $p<0.01$). Thus, hypothesis 1, and hypothesis 3 were supported. On the other hand, non-alliance airlines significantly outperformed airlines belonging to global alliances in load factor ($U=815.000$, $p<0.01$), so hypothesis 4 was rejected. Moreover, there were no significant differences between alliance airlines and non-alliance airlines in passenger volume ($U=1039.500$, $p=0.050$), and efficiency ($U=1251.500$, $p=0.565$). Therefore, hypothesis 2, and hypothesis 5 were rejected.

Table 12. Results of Mann-Whitney U test results between performances of alliance partners and non-alliance airlines

Variable	Mean Rank		U	Z	p
	Alliance	Non-Alliance			
Operating revenue (Million U.S. dollars)	40.62	24.79	288.000	-3.280	0.001**
Passenger volume (Million)	58.88	47.24	1039.500	-1.959	0.050
RPKs (Million U.S. dollar-kilometers)	63.87	43.12	805.000	-3.491	0.000**
Load factor (%)	41.34	61.70	815.000	-3.426	0.001**
Efficiency	54.37	50.96	1251.500	-0.575	0.565

Note: *p<0.05, **p<0.01

Source: the author' work

The higher financial performance and traffic volume of airlines belonging to alliances indicate that, currently, global airline alliance groupings have genuine and clear competitive advantages versus non-alliance airlines. Traditionally, financial performance and traffic volume have been recognized as widespread and focal indicators measuring competitive advantages of airlines and alliances in the airline industry. Moreover, considering the three global alliances have a long history (e.g. Star Alliance formed in 1997, oneworld formed in 1999, and SkyTeam formed in 2000), their competitive advantages could be achieved, and sustained competitive advantages have steadily evolved from an early stage. As prior studies reported that global alliance membership affects an airline's financial and traffic performance positively (Park & Zhang,1998; Park & Zang, 2000; Iatrou & Alamdari, 2005; Lazzarini, 2007; Rajasekar & Fouts, 2009), it can be presumed that, currently, the three global alliances have sustained competitive advantages versus non-alliance airlines. Also, this result implies that, if an airline participates in one of the three global alliances, they can avoid competition with competitive airlines in the airline industry, thereby achieving a defensive goal.

In addition, Kruskal-Wallis H tests were performed to investigate whether there are any differences between the three alliance groups. Table 13 shows the Kruskal-Wallis H test results. In Table 13, alpha levels of $p<0.05$, $p<0.01$ were accepted as significant. Results showed there are no significant differences among international alliance groupings in relation to operating revenue (Chi-square=1.077, p=0.584), passenger volume (Chi-square=1.311, p=0.519), RPKs (Chi-square=0.548, p=0.760), load factor (Chi-square=0.771, p=0.680), or efficiency (Chi-square=2.087, p=0.352). Therefore, hypothesis 6, hypothesis 7, hypothesis 8, hypothesis 9, and hypothesis 10 were rejected.

Table 13. Results of Kruskal-Wallis H tests results between global alliance groups

Variables	Alliance	Mean Rank	Kruskal-Wallis chi-square	p
Operating revenue	a	23.00	1.077	0.584
	b	20.42		
	c	18.22		
Passenger volume	a	24.00	1.311	0.519
	b	27.25		
	c	21.83		
RPKs	a	24.08	0.548	0.760
	b	26.07		
	c	22.57		
Load factor	a	25.46	0.771	0.680
	b	25.68		
	c	22.05		
Efficiency	a	23.92	2.087	0.352
	b	19.93		
	c	26.76		

Note: oneworld (a), SkyTeam (b), Star Alliance (c), *p<0.05, **p<0.01

Source: the author' work

The results are consistent with Goh & Uncles (2003), Min & Joo (2016), and Payán-Sánchez et al. (2019), which noted that there are no significant differences among alliances with various performance indicators.

The results might be affected by the fierce competition in the airline industry. Prior studies pointed out that skyrocketing oil prices, deregulation, privatization and commercialization of airline service, global economic recession, and the market penetration of the Middle-East region’s airlines intensified competition among airlines and alliances (Lin et al., 2016; Lin et al., 2018). For these reasons, airlines and alliances attempt to differentiate their strategies, due to having similar business models, differentiated strategies are hard to realize (Kleymann & Seristö, 2004; Payán-Sánchez et al., 2019).

Although there are no statistically significant differences, interestingly, relatively smaller scale alliances, oneworld and SkyTeam, outperform Star Alliance, the biggest alliance in terms of financial performance, traffic performance. Namely, oneworld members’ operating revenue (Mean Rank=23.00>20.42, 18.22), and SkyTeam’s passenger volume (Mean Rank =27.25>24.00, 21.83), RPKs (Mean Rank =24.08>26.07, 22.57), load factor (Mean Rank =25.68>25.46, 22.05) are better than others. These results are consistent with Min & Joo (2016), who noted that relatively small scale alliances outperform a bigger alliance. If the cooperation network between firms becomes too large, it becomes difficult to control, and there is the possibility that the quality of the partners’ cooperative relationship will get worse.

3.5. Conclusions

This study aimed to shed light on whether global airline alliances have competitive advantages and whether airlines can avoid competition with competitive rivals through participating in global alliances. Thus, Mann-Whitney U tests and Kruskal-Wallis H tests were performed to examine if alliance airlines outperform leading non-alliance airlines, and if there are significant differences among alliances in financial, traffic, and alternative performance. As a result, the author found that, currently, global airline alliances have sustained and genuine competitive advantages versus non-alliance airlines in financial and traffic aspects. However, the differences between global alliances are at just a modest level on all of the performances. Therefore, the author conclude that airlines can achieve a defensive goal through global alliances, but differentiation among alliances is not realized.

As theoretical implications of this study, the author tried to add a little wisdom to the long discussions regarding the competitive advantages of international alliances. The findings support the view that global alliances are beneficial for airlines because current alliance groupings have relative competitive advantages versus non-alliance airlines. Thus, airlines can achieve their defensive goal through participating in global alliances. Also, this study focused on the timing of measuring competitive advantages and the existence of the three global alliances; oneworld, SkyTeam, and Star Alliance. Although considerable attention has been paid to the competitive advantages of global alliances, most of the prior studies were based on their early and middle stage performances, which means that there are some limitations on clarifying their long-term and sustained competitive advantages. Even though the three alliances have been predominant over many years, little research has been done on relevant issues.

This chapter's findings can inform strategic choices and decision making of alliances and airlines. Currently, an airline's choice of which alliance to join might affect their performance. Major alliances can monitor if their strategic goal was set correctly, and whether it has been successfully realized. Also, they can check their relative strength and weakness, as well as market status. Moreover, the results should be beneficial in the airlines' decision-making process; Should we participate in an international alliance? Which international alliance would be best for our strategic goals?

However, this study has limitations that future research should examine. Firstly, this study used data from only reliable sources, but it depends on secondary data. Second, this study did not focus on other contributors that might impact alliance performance such as the number of alliance members or airline size. In subsequent research, it is necessary to make clear the critical drivers of alliances' superior performance. The third limitation is that, although this study aimed at a comprehensive framework to measure an alliance's competitive advantage, future research can focus on more alternative perspectives and methods to estimate such advantage. Today's drivers of company business success steadily depend on 'soft resources' and intangible assets like organizational culture, mission, and branding. It might be valuable to clarify how alliances' collective marketing contributes to their competitive advantages as, these days, the importance of firms' and alliances' marketing activities and global alliance as a marketing partnership is increasing. Also, many prior studies pointed out the importance of focusing on the passenger side to assess a global alliance's competitive advantage. Therefore, future research should pay more attention to distinctive perspectives and methodologies than prior studies to measure an alliance's competitive advantage.

4. Perceptions of passengers as the competitive advantages of global airline alliances: A hybrid text mining approach

4.1. Introduction

The aviation industry is a representative core industry of the world and has tremendous economic, political, and technological significance (Jangkrajarng, 2011). According to the International Air Transport Association (IATA), 1% of world GDP was spent on air transport in 2019, which is estimated at almost $900 billion (IATA, 2020).

However, the aviation industry embraces various fundamental problems. Considering recent cases related to the COVID-19 issue due to the pandemic of the virus, bankruptcies and financial problems surrounding even major airlines have frequently occurred. For example, Thai Airways, the flagship airline of Thailand is likely to be restructured under the supervision of a bankruptcy court. Virgin Australia, Australia's second-largest domestic air carrier, is currently near collapse. These facts show that the aviation industry is extremely vulnerable to environmental changes (Kleymann & Seristö, 2004), and could be characterized by their low profitability. Despite deregulation of the U.S. aviation market in the 1970s and privatization of the European market in the 1980s (Kleymann & Seristö, 2004), as well as the end of the "Two airlines" regulation in Australia in 1990, though globalization of the world aviation industry (Min & Joo, 2016) has progressed, each country still maintains strict regulatory restrictions, and strong market barriers exist (Kleymann & Seristö, 2004).

In this situation, for airlines, participating in a global airline alliance becomes an ideal and common strategy for avoiding regulatory restrictions while widening global networks and meeting the change in demand from passengers pursuing 'seamless travel' (Park & Zhang, 2000; Iatrou & Alamdari, 2005; Wang, 2014). Therefore, global airline alliances have grown exponentially (Cobeña et al., 2019). In particular, there is a consensus that the three alliances; oneworld, SkyTeam, Star Alliance, have dominated the aviation industry (Weber & Sparks, 2004; Kalligiannis et al., 2006; Tieran et al., 2008; Tsantoulis & Palmer, 2008; Janawade, 2013; Hagmann et al., 2015).

With the increase in the market presence of global airline alliances, many scholars have begun to pay attention. In past studies, the network strategies of global airline alliances (Dennis, 2000), factors of alliance's success (Whipple & Frankel, 2000), differences among mission statements of the three global airline alliances (Seo, 2020 a), themes related to who gets benefits from an alliance (Morrish & Hamilton, 2002), and human resource management issues of global airline alliances (Holtbrügge et al., 2006), were discussed. In particular, the impacts of airlines participating in alliances have been a central topic in this research field. Scholars have focused on change of financial performance (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Min & Joo, 2016) and traffic performance such as passenger volume (Park & Zhang, 1998; Park & Zhang, 2000; Iatrou & Alamdari, 2005; Min & Joo, 2016), revenue passenger kilometers (RPKs) (Rajasekar & Fouts, 2009; Min & Joo, 2016), load factor (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Lazzarini, 2007; Rajasekar & Fouts, 2009; Assaf & Josiassen, 2011; Min & Joo, 2016), available seat kilometers (ASKs) (Lazzarini, 2007), and environmental performance (Payán-Sánchez et al., 2019).

However, several research gaps surrounding the competitive advantages of global airline alliances exist. The research gaps can be classified into five categories: 1. measuring collective competitive advantages of alliances, 2. competitive advantages on the customer side, 3. measuring the timing of competitive advantages, 4. methodologies, and 5. recognition of the existence of the three major alliances in the aviation industry.

The first research gap in previous works concerns whether it is worth measuring alliance groups' collective competitive advantages and if they can be measured. It is generally recognized that measuring alliance groups' overall competitive advantage is hard work due to its complexity and the effect of external factors (Kleymann & Seristö, 2004). However, as firms' competition has moved from firm versus firm-level competition to group versus group-level competition (Ireland & Hitt, 1998; Whipple & Frankel, 2000; Morrish & Hamilton, 2002; Gomes-Casseres, 2003; Zou & Chen, 2017), and as the aviation industry is unexceptional in this phenomenon (Gomes-Casseres, 2003), it can be said that there is no doubt as to the importance of measuring alliance groups' competitive advantages, even though it is necessary to partly admit the methodological limitation.

Several studies have sought to measure competitive advantages of global airline alliances from customer's perceptions (Goh & Uncles, 2003; Weber & Sparks, 2004; Wang, 2014). However, relevant previous studies mainly deal with strategic and operational issues on the firm's side (Goh & Uncles, 2003; Wang, 2014), while little attention has been given to the competitive advantages of global airline alliances from customer's perceptions (Evans, 2001; Weber, 2002; Goh & Uncles, 2003; Weber & Sparks, 2004; Tsantoulis & Palmer, 2008; Jangkrajarng, 2011; Liou et al., 2014; Wang, 2014; Akamavi, 2015; Min & Joo, 2016; Brochado et al., 2019).

Furthermore, the timing of measuring the competitive advantages of global airline alliances is a substantial issue. Most of the past studies were based on early and middle-stage competitive advantages of alliances, which means that there are apparent limitations on clarifying their long-term and sustained competitive advantages. Global airline alliances have gradually developed and evolved in response to environmental changes (Goh & Uncles, 2003;

Janawade, 2013). Recently, the three existing global airline alliances have now had time to reap sustained competitive advantages because 2020 marks the 23rd anniversary of the formation of Star Alliance (oneworld 21st anniversary, SkyTeam 20th anniversary), the first and biggest global airline alliance. Therefore, now is the ideal time to measure the competitive advantages of a global airline alliance. Also, the aviation industry operates in an extremely volatile climate, so 20 years is long enough to witness substantial variation in individual carrier performance.

There are various research methods and approaches across several research disciplines, and these methodologies have been useful for measuring the firm side's competitive advantages. For example, review research (Morrish & Hamilton, 2002), economic research models using airlines' panel data (Oum et al., 2004), (Min & Joo, 2016), information management research using firms' information data (Seo, 2020 a), a business management research method that utilizes airlines' performance data (Payán-Sánchez et al., 2019), and empirical studies through questionnaire surveys of firms' managers and passengers (Goh & Uncles, 2003), (Iatrou & Alamdari, 2005), (Wang, 2014) have been done. However, it can be said that research using semantic methodologies that shed light on passengers' complex perceptions of airlines and alliances' service levels, and the sentiments they experienced, are still very rare (Min & Joo, 2016).

Finally, even though it is recognized that the three global airline alliances have been predominant for several decades in the aviation industry (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Holtbrügge, 2006; Wang, 2014; Douglas & Tan, 2017), little research has focused on their relative competitive advantages and differentiation.

Recognizing the above research gaps, this study aims to examine whether airlines participating in global alliances outperform non-alliance airlines, and how the three major alliances differ on passengers' perceptions as measured by service ratings and sentiment scores, and what the competitive advantages of current alliances are.

4.2. Theoretical background

4.2.1. Global airline alliances and passengers

A global airline alliance is defined as any cooperative arrangement among two or more global airlines to realize their strategic goals and improve their competitive advantages. Past studies have pointed out that airlines have formed and participated in global alliances to seek strategic and economic merits. For airlines, global alliances are a significant strategic resource and a learning tool (Ireland & Hitt, 1992). Through an international alliance, an airline can expand its global networks (Douglas & Tan, 2017) and strengthen its market status. Through co-purchasing fleets and fuel, and sharing ground staff, lounge facilities, fleet maintenance fees, and computer reservation systems with alliance partners, airlines can reduce their operating costs (Oum et al., 2004).

These merits of global alliances link to airlines' competitive advantages (Ireland & Hitt, 1992; Whipple & Frankel, 2000; Morrish & Hamilton, 2002; Peteraf & Barney, 2003; Kleymann & Seristö, 2004; Oum et al., 2004; Rajasekar & Fouts, 2009; Min & Joo, 2016; Douglas & Tan, 2017; Payán-Sánchez et al., 2019). An airline's competitive advantage is the capability of an airline to create more economic value than its competitors in the same market (Peteraf & Barney, 2003). On the other hand, a sustained competitive advantage means an advantage that can last over a much longer term (Barney, 2011). In Barney's early work (Barney, 1991), a sustained competitive advantage did not refer to a period of calendar time. Rather, he thought that "whether or not a competitive advantage is sustained depends upon the possibility of competitive duplication" (Barney, 1991) (p. 102). On the other hand, in the context of Jacobsen (1988), 'sustained' or 'longer time' is recognized as a time-series. In his work, 20 years of return-on-investment (ROI) data of companies listed on the New York and American Stock Exchanges were analyzed.

An airline's fundamental motive for participating in an alliance is gaining a sustainable competitive advantage (Albers et al., 2005). Through a global alliance, airlines obtain resources related to sustainable competitive advantages such as skills, technologies, and knowledge that could not be held before (Whipple & Frankel, 2000). Airlines can deal with environmental uncertainties, share information, and minimize transaction costs with partners (Ireland & Hitt, 1992). Moreover, airlines can decrease input costs and enjoy economic benefits (Oum et al., 2004). There has been an extensive discussion about global alliances' positive impact on the performance of airlines (Park & Zhang. 1998; Iatrou & Alamdari, 2005; Lazzarini, 2007; Rajasekar & Fouts, 2009). In particular, Iatrou & Alamdari (2005) analyzed perceived impacts by airlines belonging to four alliances: Wings, Star Alliance, oneworld, and SkyTeam. Participation in global alliances is considered beneficial to their revenue. Park & Zhang (1998) claimed that an alliance affects the traffic increase of members, and it can improve an airline's profit. Zou & Chen (2017) reported that the profit margin of an airline is positively associated with the number of their code-sharing partners.

The formation and participation in global airline alliances of airlines might also impact passengers positively and sometimes negatively. Passengers can enjoy a lower airfare due to airlines' lower operational costs (Ireland & Hitt, 1992; Park & Zhang, 1998; Bamberger, 2004; Janawade, 2013). Air travelers can enjoy better and extended options (Hannegan & Mulvey, 1995; Goh & Uncles, 2003; Janawade, 2013; Wang, 2014) because global alliances are realizing travelers' seamless travel and a variety of flight routes through widening global networks. Extended and integrated alliance lounge access is also beneficial for passengers. Priority members of Star Alliance have available more than 1,000 lounges (Star Alliance, 2020 a), SkyTeam can use 750 lounges (SkyTeam, 2020 a), and oneworld has access to 650 lounges worldwide (oneworld, 2020 a). In addition to these, passengers' convenience can be improved. Decreasing layover times between connections, and increasing non-stop long-haul flights and one-stop check-in for passengers can be realized through better coordination among alliance members (Hannegan & Mulvey, 1995). Through an alliance affiliation, the perceived risk of passengers is reduced. When passengers transfer from A airline to B airline, risks related to loss of baggage and missing a transfer flight frequently occur. Due to a closer collaborative relationship between alliance members, several passengers' risks can be reduced (Veldhuis, 1997). On the other hand, global alliances also have negative effects on air travelers. Due to the characteristic 'anti-competitiveness' of global alliances, alliances harm overall social surplus, and therefore, negatively affect passengers (Brueckner & Pels, 2005). Besides, airlines' destinations shrink as alliances monopolize flight routes (Seo, 2020 a).

In summary, a global airline alliance has a significant impact on passengers, and while passengers get various benefits from it, participating in an alliance of airlines does not always guarantee customer benefits.

4.2.2. Perceptions of passengers as competitive advantages of global airline alliance

Why are passengers' perceptions important as competitive advantages of global airline alliances? In general, an airline's product is composed of complex services (Weber & Sparks, 2004), and the airline service industry is a high demand-driven industry. Airline service complexly consists of several subordinate service elements (Liou et al., 2011; Brochado et al., 2019). Service elements involve passengers' service encounters that determine the overall image of an airline and customer satisfaction levels (Brochado et al., 2019). If an airline participates in an alliance, these service elements might be delicately adjusted due to service standardization between alliance members. On the other hand, it is firmly believed that the most significant role of the global airline alliance is to offer customer value to passengers (Ireland & Hitt, 1992; Kleymann & Seristö, 2004; Jangkrajarng, 2011; Hagmann et al., 2015). Hence, joining a global alliance becomes a common strategic choice of airline firms for achieving a competitive advantage and enhancing passengers' satisfaction (Liou et al., 2011; Wang, 2014). Also, an airline's service quality is determined by external stakeholders and operators' interactions (Liou et al., 2011), and among external stakeholders, passengers play an important role in airline service and the industry as a whole (Hagmann et al., 2015). Airlines and global airline alliances' competitive advantages depend on high-quality relationships between operators and air passengers (Akamavi et al., 2015). Therefore, passengers' positive perceptions of an airline service and passenger loyalty are key indicators that impact the firm's competitive advantage (Akamavi et al., 2015). According to Ireland et al. (1992), firms that know well about their customers can develop more sustained competitive advantages. Furthermore, according to Gayle (2004), scheduling convenience is an important factor in passengers' airline choices. Dolnicar et al. (2011) showed that price and status as a national carrier are key drivers of airline loyalty. Also, through a global alliance affiliation, airlines can realize smoother scheduling and cheaper tickets than before. As most global airline alliances consist of national carriers, it can be said that passengers' positive perceptions towards airlines and global alliances link to a competitive advantage.

However, only a few studies have examined competitive advantages of global airline alliances deriving from the customers' perceptions. Goh & Uncles (2003) found that 60% of 221 passengers responded that global alliances offer benefits. According to Weber & Sparks (2004), ease of transfers between flights, smoother baggage handling, one-stop check-in services, and better assistance in case of problems, were identified as significant benefits enjoyed by passengers as the benefits of global alliances. Wang (2014) reported that a global airline alliance affiliation positively affects passengers' perceived brand equity, brand preference, and purchase intention.

On the other hand, utilizing a relatively novel data source and introducing a new methodology, such as a text mining approach including perceived service level and emotion analysis of passengers' WOM, could provide insight and lead to the development of global airline alliance studies. Airline passenger reviews are recognized as a valuable resource that catches passengers' preferences, satisfaction, and experience information, which is of use to both operators and other customers (Liau & Tan, 2014; Brochado et al., 2019). Due to the growth of social network services (SNS), passengers can promptly and easily share their service experience (Brochado et al., 2019). By referring to passengers' WOM, airlines can conduct better decision making for improving their service level (Brochado et al., 2019). Analyzing passengers' WOM has become an unexceptional part of the aviation industry (Akamavi et al., 2015). Also, other passengers can make a better choice through indirect service experiences. Customer-generated information and their emotional dimensions are considered more reliable and informative than information from vendors and third parties, and therefore, passengers' WOM significantly influences other passengers' service choices (Tsantoulis & Palmer, 2008).

4.2.3. Research questions

The author found that five main research gaps still exist: 1. the problem of measuring collective competitive advantages of global airline alliances, 2. the value of perceptions on the passenger side related to research topics, 3. the problem of measuring timing, 4. the possibility of new methodologies, and 5. recognition of the existence of the three major alliances in the aviation industry. These research gaps can be bridged by investigating global airline alliances' competitive advantages along with perceptions of air passengers using a novel methodology. Based on previous discussions, this study sets two research questions as follows:

RQ 1: Comparing airlines which do and do not belong to global alliances, are there differences in terms of passenger perception, sentiment, awareness, and service experience?

RQ 2: Comparing the three major global airline alliances, are there differences in terms of passenger perception, sentiment, awareness, and service experience?

4.3. Methodology

4.3.1. Method

Text mining is a method for analyzing unstructured text data such as official documents or internet web pages, and for extracting a useful structured pattern, knowledge, and insight (Peji ́c Bach et al., 2019). In general, text mining is based on the traditional content analysis method and shares principals with it (Holtbrügge, 2006). For text mining analysis, linguistic, statistical, and machine learning analysis techniques are utilized (Peji ́c Bach et al., 2019). Text mining is categorized into several types: natural language processing, keyword extraction, topic frequency analysis, topic clustering, social network analysis, co-occurrence network analysis, gender prediction, sentiment analysis, and tense analysis. Hybrid text mining analysis includes more than two text mining methods or mixes text mining analyses and other methods. In particular, sentiment analysis helps to estimate the writer's emotion and attitude towards firms' products and services (Pang & Lee, 2008), which might be very useful for measuring the level of perceived firms' competitive advantage by passengers (Tsantoulis & Palmer, 2008; Liau & Tan, 2014). In this study, the author adopts a hybrid text mining approach as this study's method in order to avoid prior empirical studies' limitations by maximizing the merits of text mining methods as a nonreactive measurement technique (Peji ́c Bach et al., 2019) and seek to insight for the perceived firms' competitive advantage by passengers.

4.3.1. Research design

The authors adopt a research framework from He et al. (2013). This framework involves three stages of the text mining process: 1. data collection, 2. data analysis, and 3. actionable intelligence. Table 14 shows each stage and corresponding tasks.

Table 14. Reseach framework

Stage 1	Stage 2	Stage 3
Data Collection	**Data Analysis**	**Actionable Intelligence**
Data Source ↓ Data Collection ↓ Creating a Database	Database ↓ Pre-processing ↓ Applying Text Mining ↓ Results	Results ↓ Viewing Results to Identify Patterns, Issues, Trends, Models ↓ Discussions, Recommendations & Actions

Source: adapted and moderated from He et al. (2013).

In the first stage, the author collects data from the data source. After that, pre-processing is conducted using KH-Coder version 3 (2020) and SentiStrength (2020), before conducting each text mining analysis. Both kinds of software have been utilized and trusted in relevant business management studies (e.g., Agnieszka & Marek (2020), Liau & Tan (2014), and Fabio et al. (2018)). The pre-processing consists of tokenization (He et al., 2013), removing stop-words and word stemming.

In the second stage, hybrid text mining analyses are carried out. Initially, based on the opinion lexicon, a sentiment score of a WOM is calculated into an ordinal score. If a word has a positive meaning, it is assessed into "+ scores", while if a word has a negative meaning, it is assessed into "- scores". Neutral words are recognized as "0 scores". The sum of these scores is the sentiment score of the one sample. After that, this study conducts frequency tests. Besides, to determine a normal distribution and a homogeneity of variance of data, the Kolmogorov-Smirnov test, the Shapiro-Wilk test, the Levene's test were implemented. As a result, all of the data could not pass the standard of a normal distribution and homogeneity. Thus, the Mann-Whitney U test was adopted for comparisons between the alliance group and the non-alliance group while the Kruskal-Wallis H test was adopted for comparisons among the three alliances. The level of statistical significance is $p<0.05$. Mann-Whitney U tests of service ratings and sentiment scores, and Kruskal-Wallis H tests to compare the three alliances are carried out using IBM SPSS Statistics 23 between airlines belonging to global alliances and airline groups that do not participate in alliances.

4.3.2. Materials and data collection

The authors collected airlines' service ratings and WOM from a popular and well-known airline review aggregation website, Skytrax (2020 a). Skytrax has announced that they have no commercial association with any airlines (2020 b). Data was collected for 100 airlines, spanning 2017-2019. Data consisted of summed and averaged ordinal ratings for service, seats, and lounges (a possible range of 1-10, with higher scores indicating higher ratings), and open-ended text responses. WOM were transformed into sentiment scores using SentiStrength. SentiStrength's sentiment score range is from -5 (extremely negative) to 5 (extremely positive), which were scaled to 0-10 for subsequent analyses.

Overall, 5345 pair of ordinal rating associated with the text from 58 airlines belonging to the three global airlines, and 1048 data from 12 airlines who do not participate in the three global alliances were collected. Concerning the latter airlines, the author has referred to the leading airline groups by revenue and traffic in Flightglobal's world airline rankings 2018.

Table 15 shows the subject groups and airlines in this study, and tables 16 and 17 contain descriptive data of airline attributes, service ratings, and sentiment scores.

In table 17, the author found that the range of service ratings is relatively evenly distributed, but generally, the sentiment scores of passengers are quite low (99.8% of passengers' sentiment scores were distributed in the low score range).

Table 15. Subject groups and airlines in this study

Alliances	Number of members	Alliance duration	Founding members	Airlines
oneworld	13 airlines	21 years	American Airlines, British Airways, Cathay Pacific Airways, Qantas	Finnair, Iberia, Japan Airlines, LATAM, Malaysia Airlines, Royal Air Maroc, S7 Airlines, SriLankan Airlines, Fiji Airways
SkyTeam	19 airlines	20 years	Aeroméxico, Air France, Delta Air Lines, Korean Air	Aeroflot Russian Airlines, Aerolíneas Argentinas, Air Europa, Alitalia, China Airlines, China Eastern, Czech Airlines, Garuda Indonesia, Kenya Airways, KLM Royal Dutch Airlines, Middle East Airlines, Saudia, TAROM, Vietnam Airlines, Xiamen Air
Star Alliance	26 airlines	23 years	Air Canada, SAS Scandinavian Airlines, Thai Airways International, United Airlines, Lufthansa	Aegean Airlines, Air Canada, Air China, Air India, Air New Zealand, ANA All Nippon Airways, Asiana Airlines, Austrian Airlines, Avianca, Brussels Airlines, Copa Airlines, Croatia Airlines, EGYPTAIR, Ethiopian Airlines, EVA Air, LOT Polish Airlines,

				Shenzhen Airlines, Singapore Airlines, South African Airways, Swiss International Air Lines, TAP Air Portugal, Turkish Airlines,
Non-alliance airlines	12 airlines	•	•	Air Transat, Alaska Airlines, China Southern Airlines, Emirates Airline, Etihad Airways, Hainan Airlines, Hawaiian Airlines, Oman Air, Philippine Airlines, Sichuan Airlines, TUI Airways, Virgin Atlantic

Source: oneworld (2020 b), SkyTeam (2020 b), Star Alliance (2020 b) and the authors' work

Table 16. Descriptive data of airline attributes

Airlines belonging to global alliances	***(oneworld)***	***(SkyTeam)***	***(Star Alliance)***	**Non-alliance airlines**	**Total**
5345	*1232*	*1710*	*2403*	1048	6393

Source: the authors' work

Table 17. Descriptive data of airline service ratings and sentiment scores

Variable	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total**
Service rating	0	1812	650	493	321	295	307	439	643	672	761	6393
%	0	28.3	10.2	7.7	5.0	4.6	4.8	6.9	10.1	10.5	11.9	100%
Sentiment score	20	434	913	1175	3835	6	6	4	0	0	0	6393
%	0.3	6.8	14.3	18.4	60	0.1	0.1	0.1	0	0	0	100%

Source: the authors' work

4.4. Results

Frequency tests were performed to demonstrate how global alliances are perceived when passengers use global alliance members' services and whether the degree of alliance perception between the three alliances differs.

Table 18 indicates the results of the frequency tests. Only 2.9% of passengers mentioned global alliances. Also, among them the global alliance that was most often mentioned by passengers was Star Alliance (1.5%). The second most often mentioned alliance was SkyTeam (0.8%), and the lowest was oneworld (0.7%).

Table 18. Results of frequency tests

Mentions of alliance	***(oneworld)***	***(SkyTeam)***	***(Star Alliance)***	**None**	**Total**
187	*42*	*49*	*96*	6206	6393
2.9	*0.7*	*0.8*	*1.5*	97.1	100%

Source: the authors' work

Mann-Whitney U tests and Kruskal-Wallis H tests were performed. Table 19 shows differences in service ratings and sentiment scores between the alliance group and the non-alliance group. Based on the results, it seems that non-alliance airlines significantly outperformed airlines participating in global alliances on both service rating (Mean Rank 3397.65 > 3397.65, U=2590530.000, p<0.01) and sentiment rating (Mean Rank 3321.06 > 3172.68, U=2670766.000, p<0.01).

Table 19. Differences of service ratings and sentiment scores between alliance and non-alliance airlines

Variable	**Mean Rank**		**U**	**Z**	**p**
	Alliance (N=5345)	**Non-Alliance (N=1048)**			
Service rating	3157.66	3397.65	2590530.000	-3.906	0.000**
Sentiment score	3172.68	3321.06	2670766.000	-2.704	0.0007**

Note: *p<0.05, **p<0.01

Table 20 shows the differences in service ratings and sentiment scores among the three global alliance members. Results showed there are no significant differences among global alliance groupings concerning service rating and sentiment score.

Table 20. Differences of service ratings and sentiment scores among the three global alliances

Variables	Alliance	Mean Rank	Kruskal-Wallis chi-square	p
Service rating	a	2677.07	1.474	0.479
	b	2637.82		
	c	2695.95		
Sentiment score	a	2722.97	2.334	0.311
	b	2669.04		
	c	2650.20		

Note: oneworld (a), SkyTeam (b), Star Alliance (c), *p<0.05, **p<0.01

4.5. Discussion

It is estimated that the results of frequency tests are due to the scale of the different members of each alliance. However, the fact that global alliances were rarely perceived by passengers is an interesting finding. According to Goh & Uncles (2003), significant factors (they have suggested 20 factors) affecting airline choice of passengers were “reputation for safety”, “reliable baggage handling”, and “most direct routes and fewest stopovers”. In their study, “airline part of my preferred global alliance” was ranked 18. This fact implies that, still, passengers do not recognize the global alliance as an important part of airline service even though global alliances have strong power in the aviation industry, and they have evolved gradually over several decades.

The results of Mann-Whitney U tests suggest that, currently, airlines belonging to global alliances do not surpass non-alliance airlines on passengers’ perceived service level and emotional experience. Although prior studies have reported that airlines have achieved competitive advantages on the firm side such as financial and traffic performance improvements versus their rivals through participating in global alliances (Park & Zhang, 1998; Iatrou & Alamdari, 2005; Lazzarini, 2007; Rajasekar & Fouts, 2009), the findings show that, at least, they could not ensure competitive advantages on the customer side.

As similarly pointed out by Goh & Uncle (2003), the results of Kruskal-Wallis H tests might be affected by the fierce competitive setting in the aviation industry. The impact of global economic recession, fluctuation of the oil price, and market penetration by Middle-East premium airlines, are the factors accelerating competition and deterioration in profitability in the aviation industry. Also, for this reason, airlines and alliances pursue differentiation. However, due to the similarity of business models and homogeneity of service product in the industry (Brochado et al., 2019), differentiated strategies are hard to successfully realize (Kleymann & Seristö, 2004; Payán-Sánchez, 2019).

4.6. Conclusions

This research has addressed whether global airline alliances have sustained competitive advantages versus non-alliance airlines from passengers' perceptions (RQ 1) and what the competitive advantages of the three leading global airline alliances are (RQ 2). To clarify these research questions, the author adopted a hybrid text mining approach and conducted frequency tests, Mann-Whitney U tests, Kruskal-Wallis H tests. Although previous studies have pointed out that global alliances have genuine competitive advantages on the firms' side, in this study, the author have concluded that currently, global airline alliances do not have competitive advantages versus non-alliance airlines at least from passengers' perceptions. Concerning the latter research topic, the author found that there are no differences between global alliances related to degree of alliance perception, service level, or sentiment of passengers.

4.6.1. Theoretical contributions

As a first theoretical contribution, the author tried to add a little wisdom to the long discussions regarding competitive advantages of global airline alliances.

On the other hand, in previous studies, there are limitations on clarifying long-term and sustained competitive advantages of global airline alliances. As the author attempts to measure it at this timing, the author believes that our findings are closer to capturing their sustained competitive advantages and current realities.

The author have focused on the existence of the three leading alliances and their differentiation. Even though they have apparent status in the aviation industry, very little attention has been paid to the issue of their existence and differentiation.

4.6.2. Methodological contributions

Other merits of this study are its various methodological contributions. Previous studies were mainly based on questionnaire survey or interview methods to investigate passengers' perceptions. However, the author believes that our study can avoid prior studies' methodological limitations by maximizing the merits of advanced text mining methods. In particular, using the sentiment score as the focal performance indicator was a novel attempt.

4.6.3. Practical contributions

Our findings suggest that current global airline alliances could not attain overwhelming competitive advantages from passengers' perceptions as measured by service ratings and sentiment scores, and the differentiation strategy of each alliance was not so successful. These results imply that global airline alliances should make more effort to identify and present their points of difference, not on the firm side but on the customer side. Also, global airline alliances and airlines should systematically manage passengers' perceptions and the service level, and they should focus more on passenger emotion.

Moreover, in the above frequency tests related to the degree of perceptions of passengers in an airline service context, they almost completely failed to mention global alliances. The results suggest that global alliances should emphasize their role in the airline service context and strengthen their brand.

4.6.4. Limitations and future research

This study has some obvious limitations that future research should examine. This study has dealt with data from a single source. There are various and abundant data sources such as TripAdvisor or even airlines' own web pages where customers can leave their opinions. However, TripAdvisor is a multi-purpose data source that includes hotel service and tourist attractions, while there are problems with the accessibility of WOM on airlines' web pages. For these reasons, the author have selected Skytrax, which specializes in airline service WOM. Future research should consider and utilize such various data sources.

The author have only used English WOM for this study's analyses due to its preponderance on the website. However, in future research, it is better to use data in various languages.

Also, when drawing strategic and practical implications such as for detailed decision-making of alliances and airlines, it is necessary to bear in mind that other main drivers or factors might affect the competitive advantages of global alliances: volume of alliance members, alliance affiliation period, and whether an alliance is a founding member or not.

Although our main theoretical implication is based on the alliance's competitive advantage on the customer side, in future research, it is hoped that novel studies measuring an alliance's competitive advantage from both sides and adopting new academic perspectives, methodology, and data will be undertaken.

5. Strategic communication and competitive advantage: assessing CEO letters of global airline alliances

5.1. Introduction

In general, there is a consensus that the aviation industry is vulnerable to external changes and stimulus, and its profitability is quite low (Kleymann & Seristö, 2004). As moves to strengthen competitiveness, airlines have participated in global airline alliances. A global airline alliance is "any cooperative arrangement among two or more global airlines to realize their strategic goals and improve their competitive advantages" (Seo & Itoh, 2020).

Through affiliation in global airline alliances, airlines enjoy various strategic and economic merits. Participating in an alliance is a defensive move for an airline (Kleymann & Seristö, 2004; Iatrou & Alamdari, 2005). Namely, global airlines avoid direct competition through an alliance and, conversely, have a close cooperative relationship with strong rivals. Also, intensive air transport networks become powerful strategic resources that allow alliance partners to feed traffic to each other (Kleymann & Seristö, 2004; Rajasekar & Fouts, 2009) so that the networks absorb a region's traffic volume (Kleymann & Seristö, 2004). Due to the characteristic that a global airline alliance is a loosely-coupled organization and most of the global airline alliances are formed in a horizontal manner (Oum et al., 2004), the aforementioned strategic merits are changeable. Sometimes, airlines have cooperative arrangements with non-allied airlines and even members of other global alliances. In the same alliance, airlines cooperate with their partners and, simultaneously, compete with them (Zou & Chen, 2017). However, unlike with mergers and acquisitions (M&As), airlines participating in global alliances can widen their global networks without a direct capital investment and while avoiding existing countries' restrictions and market barriers (Douglas & Tan, 2017). Acquiring rare resources and gaining complementary knowledge, i.e. the know-how of partners, are strategic merits of a global alliance affiliation (Ireland et al., 2002). On the other hand, airlines can reduce their input costs through participating in alliances and thus they enjoy increased economic benefits. For example, co-purchasing aircraft and fuel, and sharing human resources, lounge facilities, fleet maintenance fees, marketing fees and standardized computer reservation systems lead to cost-saving (Oum et al., 2004).

Currently, the number of airlines participating in global alliances and the market presence of global airline alliances are increasing. Over the past several decades, issues related to global airline alliances have been addressed by scholars and practitioners in the aviation industry. In these previous studies, the core issues have been the effect of the global alliance affiliation of airlines and what the relative competitive advantages of current global airline alliances are. While there are several novel approaches, such as investigating competitive advantages derived from the passengers' side (e.g., Goh & Uncles, 2003; Weber & Sparks, 2004; Wang, 2014; Seo & Itoh, 2020), the relevant studies have still mainly focused on the operational issues of airlines.

The strategic communications of a firm offer a significant opportunity for achieving a competitive advantage and realizing a differentiation strategy (Kohut & Segars, 1992; Segars & Kohut, 2001; Chang et al., 2003; Santema et al., 2005; Dumitru et al., 2015; Koehler & Hoffmann, 2018). Therefore, this study has examined the possible existence of global airline alliances' competitive advantages through assessing their quality of strategic communication.

This chapter consists of five sections. The next section focuses on the theoretical background related to strategic communication and competitive advantage and introduces this study's research questions. In section three, quantitative and qualitative content analyses are implemented using 46 airlines' CEO letters. In section four, based on results, discussions are carried out. In section five, a summary of this study is provided, and theoretical and practical contributions, limitations, and future research are discussed.

5.2. Theoretical background

5.2.1. Strategic communications as competitive advantage

In prior studies, the main topics relating to global airline alliance issues have been the effect of global alliance affiliation and what the relative competitive advantages of global airline alliances are. The main topics can be classified into three categories: 1. economic effects, 2. traffic effects, and 3. other effects.

Morrish & Hamilton (2002) have argued that airlines should achieve a moderate benefit in general productivity and profit through an alliance affiliation. Oum et al. (2004) sought to investigate the impact of strategic alliances on airline profitability. According to Iatrou & Alamdari (2005), participation in a global alliance is considered beneficial to an airline's revenue.

Min & Joo (2016) have examined airlines' operating revenue as an important impact indicator of an alliance affiliation. Zou & Chen (2017) found that the profit margin of a global airline is positively associated with the number of their code-sharing alliance partners.

On the other hand, many scholars have focused on traffic effects. For example, changes to or relative competitive advantages derived from passenger volumes (Park & Zhang, 1998; Park & Zang, 2000; Iatrou & Alamdari, 2005; Min & Joo, 2016), revenue passenger kilometers (RPKs) (Rajasekar & Fouts, 2009; Min & Joo, 2016), load factor (Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005; Lazzarini, 2007; Rajasekar & Fouts, 2009; Assaf & Josiassen, 2011; Min & Joo, 2016), and available seat kilometers (ASKs) (Lazzarini, 2007; Zou & Chen, 2017) have been discussed as the focal indicator.

In addition to these, even though there exist very few studies, other sides of the competitive advantages of global airline alliances have been paid attention to. For instance, the competitive advantages derived from the passengers' side were highlighted in Goh & Uncles, 2003; Weber & Sparks, 2004; Wang, 2014; and Seo & Itoh, 2020. Min & Joo (2016) have compared differences in perceived service ratings from passengers between an alliance group and a non-alliance group, and between oneworld, SkyTeam and Star Alliance. Also, Payán-Sánchez et al. (2019) shed light on the effect of alliance affiliation and the environmental performance of alliances. Seo (2020) has found that there are unique organizational values that are shared among members of each airline alliance which link to their relative competitive advantages.

Considering the research stream of competitive advantages of global airline alliances, it can be said that the relevant studies have still mainly focused on operational issues of airlines, and that, therefore, there is a research gap that can be bridged by introducing a novel approach.

The strategic communications of global airline alliances play a role as competitive advantages in themselves and simultaneously as tools for achieving other types of competitive advantages. Traditionally, a company's competitive advantage is defined as the capability of the company to create more economic value than its rivals (Peteraf & Barney, 2013). However, nowadays, a firm's business growth and survival do not depend only on its economic outputs, but also on its invisible assets and strength. Thus, this study deals with competitive advantage in the sense of the set of comprehensive resources and relative strong points of a firm compared with its competitors. Also, as firms' competition has moved from firm versus firm-level competition to group versus group-level competition, and as an airline's operation affects all alliance members in the global alliance context, the concern with strategic communication should be extended to each group's collective strategic communication alliance-wide.

An airline's attempts to disclose its strategies in a transparent and impartial way can be recognized as part of its communication efforts (Koehler & Hoffmann, 2018), and these efforts allow the airline to earn trust and support from its stakeholders (Kohut & Segars, 1992; Segars & Kohut, 2001). Therefore, good strategic communication leads an airline to make long-lasting and mutually beneficial relationships with stakeholders. Also, communicating an airline's strategy to its stakeholders provides the airline with the chance to differentiate itself from its rivals in the same market (Judd & Tims, 1991; Kohut and Segars, 1992; Segars & Kohut, 2001; Santema et al., 2005). According to Dumitru et al., (2015), information related to an airline's selling points and strengths is the key factor in shaping the content of corporate strategic communications. For airlines, a customer focus and customer-oriented reporting have meaning as a differentiation strategy. Also, if stakeholders perceive an airline positively through strategic communication, the perceptions will be positively associated with the continuation and growth of its business and investor loyalty (Koehler & Hoffmann, 2018). Moreover, several studies found that there are positive correlations between companies' strategic communications and their financial performance (Pearce & David, 1987; Kohut & Segars, 1992; Seo & Itoh, 2019).

In this study, the author focuses on airlines' strategic communication as an important element of the collective competitive advantages of global airline alliances.

5.2.2. CEO letters to shareholders in strategic communications

Firms' strategic communications toward the internal and external world include disclosure and reporting endeavors such as annual and sustainability reporting, current integrated reporting, non-financial reporting, such as CEO letters to shareholders, and announcements of organizational mission, vision, objectives and tactics.

In particular, the value and role of firms' CEO letters as strategic tools in communication with stakeholders is increasingly emerging. The disclosure of strategy by firms has evolved from merely reporting key financial outputs to the publication of nonfinancial storytelling as well as material related to the image and branding of firms (Koehler & Hoffmann, 2018). Among the various kinds of reporting, CEO letters are airline companies' representative strategic disclosures (Santema & van de Rijt, 2001; Santema et al., 2005). CEO letters convey an airline's "strategic orientation" towards its stakeholders (Judd & Tims, 1991). According to Amernic & Craig (2007), CEO letters provide a focal insight into airlines' strategy, policy, philosophy and accountability, and well-founded CEO letters play a role as a means of strategic positioning towards the public. Kohut & Segars (1992) have pointed out that CEO letters in annual reporting are a significant hint in examining the connections between the "organizational beliefs and strategic behavior" of firms. CEO letters are recognized widely as the most prominent and powerful section of reports and they have political and cultural value (Tregidga et al., 2012).

In fact, for many years firms have spent considerable budget, time and effort on making non-financial reporting (Segars & Kohut, 2001). Also, investors carefully read CEO letters, and they recognize that CEO letters are a very important part of annual reports when they make investment decisions toward firms (Kohut & Segars, 1992; Santema & van de Rijt, 2001; Santema et al., 2005; Conaway & Wardrope, 2010; Makela & Laine, 2011; Costa et al., 2013). CEO letters are carefully made and strategically utilized (Kim & Kim, 2017).

CEO letters are named in various ways. For example, 'message from our CEO', 'CEO's review', 'top message from the president', 'CEO's report', 'chairman's message', 'chairman's letter', 'chairman's statement', 'letter to shareholders', 'letter from the president', 'directors' report', 'management message', 'message from management', 'message to our stakeholders', and 'president's comment' are all used as synonyms of CEO letter. In general, CEO letters deal with the firm's major events, its ability to control the events, and financial results (Kohut & Segars, 1992; Courtright & Smudde, 2009) as the main topics of a fiscal year. Short and long-term strategies and objectives, business decisions, and firms' promising opportunities are also discussed (Kohut & Segars, 1992; Chang et al., 2003; Courtright & Smudde, 2009; Kim & Kim, 2017). Sometimes, CEO letters are recognized as the means of expressing a CEO's individuality so that a CEO letter's message includes the top-manager's ideology and characteristics (Amernic & Craig, 2004).

On the other hand, the contents and main points of CEO letters differ depending on the type of reporting. According to Makela & Laine (2011), CEO letters in annual reports highlighted firms' financial performance and growth, while CEO letters in sustainability reports focused on the topic of 'well-being'.

Readers of CEO letters are diverse, but it is firmly believed that they consist of the firms' important stakeholders such as employees and customers, investors, the public, and even supply chain and strategic alliance partners (Koehler & Hoffmann, 2018).

There are reasons why the CEO letter can be utilized as an indicator to examine the competitive advantages of global airline alliances. First, there are some implicit agreements regarding the structure of an ideal CEO letter (e.g., Judd & Tims, 1991; Kohut & Segars, 1992; Santema & van de Rijt, 2001; Chang et al., 2003; Bournois & Point, 2006; Conaway & Wardrope, 2010; Dumitru et al., 2015). Also, Segars & Kohut (2001) have developed a CEO letter effectiveness measure to assess the quality of CEO letters. Analyzing the emphasis in the CEO letters of a global airline alliance can be useful for clarifying the relative differentiation points between an alliance group and a non-alliance group, and also among the three leading global airline alliances.

5.2.3. Research questions

Based on previous discussions, this study set the following two research questions:

RQ 1: Comparing airlines which do and do not belong to global alliances, are there differences in terms of component numbers, effectiveness, and contents of CEO letters?

RQ 2: Comparing the three major global airline alliances, are there differences in terms of component numbers, effectiveness, and contents of CEO letters?

5.3. Methodology

5.3.1. Method

The author adopts content analysis as this study's method. According to Riffe et al. (p. 19), "content analysis is the systematic and replicable examination of symbols of communication, which have been assigned numeric values according to valid measurement rules, and the analysis of relationships involving those values using statistical methods, to describe the communication, draw inferences about its meaning, or infer from the communication to its context, both of production and consumption".

The merit of content analysis is that scholars can avoid the bias arising from the process of identifying communication data, because this method is based on a nonreactive measurement technique and the communication data is separate from its production and consumption. Therefore, for many years, content analysis has been widely adopted by the strategic communication studies field (e.g., Pearce & David, 1987; kemp & Dwyer, 2003; Lin et al., 2018; Seo & Itoh, 2019).

5.3.2. Materials and data collection

Firstly, in trying to collect only the most recent airline data, the authors collected CEO letters from June 18th to June 22nd, 2020. Table 21 shows the sources of data.

Table 21. Sources of sample

Source	Airlines
Annual Report	Finnair, LATAM, Qantas, SriLankan Airlines, China Eastern, Garuda Indonesia, Kenya Airways, KLM Royal Dutch Airlines, Vietnam Airlines, Aegean Airlines, Air Canada, Air China, Air India, Air New Zealand, ANA All Nippon Airways, EGYPTAIR, Ethiopian Airlines, EVA Air, Lufthansa, Singapore Airlines, South African Airways, TAP Air Portugal, Thai Airways International, Turkish Airlines, China Southern Airlines, Emirates Airline, Hawaiian Airlines, Oman Air, TUI Airways, Virgin Atlantic
Corporate Social Responsibility Report	American Airlines, Croatia Airlines
Sustainability Report	Cathay Pacific Airways, Korean Air, Asiana Airlines, Copa Airlines, TAP Air Portugal, Hainan Airlines, Delta Air Lines
Integrated Report	Air France, SAS Scandinavian Airlines
Official Web Page	Japan Airlines, Alitalia, Middle East Airlines, Copa Airlines, Alaska Airlines, Emirates Airline
Not Open to the Public	British Airways, Iberia, Malaysia Airlines, Royal Air Maroc, S7 Airlines, Fiji Airways, Aerolíneas Argentinas, Aeroméxico, Air Europa, Saudia, TAROM, Xiamen Air, Austrian Airlines, Avianca, Brussels Airlines, LOT Polish Airlines, Shenzhen Airlines, Swiss International Air Lines, United Airlines, Etihad Airways, Philippine Airlines, Sichuan Airlines

Source: the authors' work

Overall, 46 CEO letters from 38 airlines belonging to the three global airline alliances, and 8 CEO letters from airlines who do not participate in the three global alliances were collected (see appendix 4). As for the airlines in the non-alliance group, they are simultaneously ranked in the leading airline groups by financial performance, and traffic performance in FlightGlobal's world airline rankings 2018. Table 22 shows descriptive data of the airline attributes.

Table 22. Descriptive data of airline attributes

Categorization	Number of data
Airlines belonging to global alliances	38
oneworld	7
SkyTeam	12
Star Alliance	19
Non-alliance airlines	8
Total	46

Source: the authors' work

5.3.3. Research design

In order to assess the strategic communication level of subject groups, the author introduces an assessment framework for three aspects of the CEO letters. First, the author conducts a quantitative assessment of CEO letters using frequency tests. Namely, this study examines whether subject groups have ideal CEO letters. This study adopts an assumption from Pearce & David (1987), a well-known work in the strategic communication research field, that a desirable strategic communication tool covers broad topics and has essential components. Next, the author conducts a qualitative assessment of CEO letters using frequency tests to clarify the emphasis of the three leading alliances' CEO letters. Finally, this study carries out a quality assessment of CEO letters based on the CEO letter effectiveness measurements developed by Segars & Kohut (2001). The measurements are anchored by seven-point Likert scales ranging from 1 (strongly disagree) to 7 (strongly agree). This study adopts 17 items belonging to 4 main categories; credibility, efficacy, commitment, and responsibility for the work. Table 23 shows the measurements of CEO letter effectiveness. Based on the assessment of CEO letter effectiveness of subject groups, Mann-Whitney U tests and Kruskal-Wallis H tests are carried out.

Table 23. Measurements of CEO letter effectiveness

Categories	Definition	Items
Credibility	The image of the CEO as a sincere and accurate interpreter of corporate events	CR1: The information conveyed by top-management is reliable
		CR2: The strategic direction of top-management is focused
		CR3: The strategic direction of top-management is realistic
		CR4: The information conveyed by top-management is sincere
		CR5: The information conveyed by top-management is accurate
Efficacy	The image of the CEO as a controlling force in organizational and environmental events	EF1: The actions of top-management have impacted the outcomes of the organization
		EF2: Top-management understands the variables that affect the organization
		EF3: Top-management is in control of organizational activities
		EF4: Top-management is responsive to changing competitive conditions
Commitment	The image of the CEO as a good steward to current and potential customers	CO1: Top-management appreciates customers
		CO2: Top-management is committed to meeting customers' needs
		CO3: Top-management is actively generating new business
		CO4: Top-management is building cooperative relationships with business partners
Responsibility	The image of the CEO as a 'good citizen' in business relationships	RE1: Top-management is concerned about emerging social and environmental issues
		RE2: Top-management fosters values and ethical standards for employees of the organization
		RE3: Top-management endeavours to create mutual benefit among business partners
		RE4: Top-management is concerned about employee well-being

Source: Segars & Kohut (2001)

For the first and second stages, CEO letters were coded according to main topics based on previous studies (Judd & Tims, 1991; Kohut & Segars, 1992; Santema & van de Rijt, 2001; Chang et al., 2003; Bournois & Point, 2006; Conaway & Wardrope, 2010; Dumitru et al., 2015). After an intensive review, overall, this study set 10 topics of CEO letters; "customer", "external environment", "governance", "infrastructure", "market", "product", "performance", "stakeholders", "strategy", and "social responsibility". Table 24 indicates the main topics and definitions.

Table 24. Main topics of the CEO letter

Topics	Definition and Description
Customer (Judd & Tims, 1991; Chang et al., 2003; Conaway & Wardrope, 2010)	The concern for customers. It includes the following words: customer, demand, experience, loyalty, need, passenger
External Environment (Kohut & Segars, 1992; Conaway & Wardrope, 2010)	The concern for external factors to affect airlines' performance. It includes the following words: challenge, crisis, risk, trade
Governance (Conaway & Wardrope, 2010)	The concern for leadership and control by the CEO. It includes the following words: control, director, management
Infrastructure (Conaway & Wardrope, 2010)	The concern for airlines' infrastructure, technology investment. It includes the following words: aircraft, fleet, investment, seat, technology
Market (Kohut & Segars, 1992; Bournois & Point, 2006)	The concern for airlines' target markets. It includes the following words: area, aviation, country, industry, market, region, sector, tourism, world
Product (Kohut & Segars, 1992; Bournois & Point, 2006)	The concern for airlines' product mix. It includes the following words: service, operation, route, network, brand, cargo, operating, product, quality, program, destination, resource, opportunity, city, programme
Performance (Kohut & Segars, 1992; Bournois & Point, 2006; Conaway & Wardrope, 2010; Beauchamp & O'Connor, 2012; Dumitru et al., 2015)	The concern for airlines' performance and growth, survival. It includes the following words: achievement, advantage, asset, benefit, capital, cash, capacity, cost, development, economy, efficiency, expansion, fuel, growth, increase, interest, loss, performance, profit, result, revenue, sale, success, traffic
Stakeholders (Dumitru et al., 2015)	The concern for airlines' stakeholders. It includes the following words: airport, community, cooperation, employee, government, member, partner, partnership, people, shareholder, staff, stakeholder, team

Strategy (Kohut & Segars, 1992; Santema & van de Rijt, 2001; Bournois & Point, 2006; Conaway & Wardrope, 2010)	The concern for airlines' strategic plans and mission, vision, goal, operating philosophy. It includes the following words: culture, goal, history, objective, plan, policy, position, priority, safety, strategy, target, value
Social Responsibility (Conaway & Wardrope, 2010; Beauchamp & O'Connor, 2012; Dumitru et al., 2015)	The concern for social issues including the environment, ethics, contribution to the community. It includes the following words: carbon, community, environment, emission, reduction, responsibility, society, sustainability

Source: the authors' work

In order to avoid coding bias by human judgment, this study carried out a text mining analysis to make a coding rule using highly mentioned words in the CEO letters. The coding rule includes some critical words to divide topics. The study's text mining analysis was carried out using KH-coder version 3, and this analysis consists of tokenization, removal of stop-words, and word stemming. According to Liau & Tan (2014) (p. 1347), "tokenization is the process of breaking up a sequence of words into pieces called tokens. Tokenization aims to examine the words in a sentence and identify meaningful keywords". Tokens are characterized as words, numbers, or signs (Peji ́c Bach et al., 2019). The next step is deleting stop-words. Stop-words are the words that don't affect interpretations, for instance, punctuation (such as "." and ","), pronouns (such as "I", "we", "they"), articles (such as "a", "the"), and prepositions (such as "from", "to", "before") (Liau & Tan, 2014). This process aims to reduce noise and dimensionality in the text (Peji ́c Bach et al., 2019). Word stemming is a process that transforms words into linguistic roots (Liau & Tan, 2014). For instance, "fly", "flies", "flying", "flew", and "flown" have the same linguistic root. The word stemming process bundles variant patterns of the word into the same category.

For the third stage, the two authors independently judged each CEO letter's effectiveness. To assess the agreement between authors, Cohen's (1960) kappa was calculated by IBM SPSS Statistics 23. This study's first kappa coefficient was 0.098, which indicates a slight inter-rater agreement (Landis and Koch, 1977). After that, the two authors discussed centering around fairly different opinions and reached improved agreements. The final kappa coefficient was 0.386, which indicates a fair agreement (Landis and Koch, 1977). In addition to this, the two authors' CEO letter effectiveness scores were summed and averaged for Kruskal-Wallis H tests.

5.4. Results

This study carried out a quantitative assessment of the CEO letters using frequency tests. As a result, the non-alliance group's component number of CEO letters was found to be more than the alliance groups' (9.5 > 8.625). Also, the component number of CEO letters of Star Alliance was the most numerous among alliances (9.157 > 8.66, 7.44).

Table 25 indicates the average component numbers of subject groups.

Table 25. Averaged component numbers of each subject groups' CEO letters

Alliance	Non-Alliance	oneworld	SkyTeam	Star Alliance
8.625	9.5	7.44	8.66	9.157

Source: the authors' work

Next, this study conducted a qualitative assessment of the CEO letters using frequency tests. According to the analysis, the alliance group emphasizes "customer", while the non-alliance group emphasizes "customer", "infrastructure", "market", "performance", "product", "social responsibility", "stakeholder", and "strategy". On the other hand, oneworld members highlight "customer", and SkyTeam members highlight "customer", "performance", and "stakeholder". Star Alliance members emphasize "performance", "product", and "strategy". Tables 26 and 27 show the main topics in the CEO letters of the subject groups.

Table 26. Comparison of alliance group and non-alliance group based on the frequency of main topics in CEO letters

	Alliance			Non-Alliance		
Topics	**Frequency**	**Percent**	**Rank**	**Frequency**	**Percent**	**Rank**
Customer	40	100	1	8	100	1
External environment	30	75	6	7	87.5	2
Governance	25	62.5	7	5	62.5	3
Infrastructure	34	85	5	8	100	1
Market	39	97.5	2	8	100	1
Performance	34	85	5	8	100	1
Product	39	97.5	2	8	100	1
Social responsibility	37	92.5	3	8	100	1
Stakeholder	34	85	5	8	100	1
Strategy	36	90	4	8	100	1

Source: the authors' work

Table 27. Comparing the three leading alliances based on the frequency of main topics in CEO letters

	oneworld			SkyTeam			Star Alliance		
Topics	**Frequency**	**Percent**	**Rank**	**Frequency**	**Percent**	**Rank**	**Frequency**	**Percent**	**Rank**
Customer	10	100	1	12	100	1	18	94.7	2
External environment	5	50	4	8	66.6	4	16	84.2	4
Governance	1	10	5	8	66.6	4	13	68.4	5
Infrastructure	7	70	3	10	83.3	3	17	89.4	3
Market	8	80	2	11	91.6	2	18	94.7	2
Performance	7	70	3	12	100	1	19	100	1
Product	8	80	2	10	83.3	3	19	100	1
Social responsibility	8	80	2	10	83.3	3	17	89.4	3
Stakeholder	7	70	3	12	100	1	17	89.4	3
Strategy	7	70	3	11	91.6	2	19	100	1

Source: the authors' work

Finally, this study carried out a quality assessment of CEO letters. (Tables 28 and 29 show the CEO letter effectiveness of the subject groups.) As a result, the non-alliance group's CEO letters were found to outperform the alliance's CEO letters based on RE1 (Mean Rank=32.14 > 21.95, U=76.000, p<0.05). Although there are only moderate differences, the CEO letter effectiveness score of the non-alliance group was higher than the alliance group. Namely, the non-alliance group outperforms the alliance group on the other nine items; CR5, EF1, EF2, EF3, CO3, CO4, RE2 ~ RE4. On the other hand, oneworld members' CEO letters outperform the others based on CR4 (Mean Rank= 25.93>24.71, 15.10, Kruskal-Wallis chi-square=9.854, p<0.01), RE1 (Mean Rank= 28.64>13.42, 20.93, Kruskal-Wallis chi-square=8.994, p<0.05), and RE3 (Mean Rank= 25.57>23.92, 15.70, Kruskal-Wallis chi-square=6.262, p<0.01). Overall, the CEO letter effectiveness score of oneworld was higher than others, and oneworld also scored highest on seven other items; CR2, CR4, EF2, CO1, CO4, RE1, RE3. SkyTeam outperformed on five items (CR1, CR3, CR5, EF1, EF3), while Star Alliance outperformed on four items (EF4, CO3, RE2, RE4).

Table 28. Differences of CEO letter effectiveness item measures between alliance and non-alliance airlines

Item	Mean Rank		U	Z	p
	Alliance (N=39)	Non-Alliance (N=7)			
CR1	24.00	20.71	117.000	-0.654	0.513
CR2	24.99	15.21	78.500	-1.863	0.062
CR3	24.81	16.21	85.500	-1.611	0.107
CR4	24.64	17.14	92.000	-1.514	0.130
CR5	23.47	23.64	135.500	-0.032	0.974
EF1	23.21	25.14	125.000	-0.375	0.707
EF2	22.40	29.64	93.500	-1.373	0.170
EF3	22.13	31.14	83.000	-1.712	0.087
EF4	23.85	21.57	123.000	-0.422	0.673
CO1	24.42	18.36	100.500	-1.128	0.259
CO2	24.15	19.86	111.000	-0.888	0.374
CO3	23.03	26.14	118.000	-0.582	0.561
CO4	22.78	27.50	108.500	-0.871	0.384
RE1	21.95	32.14	76.000	-1.986	0.047*
RE2	22.81	27.36	109.500	-0.842	0.400
RE3	23.01	26.21	117.500	-0.596	0.551
RE4	22.60	28.50	101.500	-1.092	0.275

Note: * $p < 0.05$, ** $p < 0.01$.

Source: the authors' work

Table 29. Differences of CEO letter effectiveness item measures among the three global alliances

Item	Alliance	Mean Rank	Kruskal-Wallis chi-square	p
CR1	oneworld	22.21	4.510	0.105
	SkyTeam	24.29		
	Star Alliance	16.65		
CR2	oneworld	24.21	4.352	0.114
	SkyTeam	23.29		
	Star Alliance	16.55		
CR3	oneworld	23.43	4.414	0.110
	SkyTeam	24.00		
	Star Alliance	16.40		
CR4	oneworld	25.93	9.854	0.007**
	SkyTeam	24.71		
	Star Alliance	15.10		
CR5	oneworld	20.79	0.592	0.744
	SkyTeam	21.67		
	Star Alliance	18.73		
EF1	oneworld	19.07	0.902	0.637
	SkyTeam	22.46		
	Star Alliance	18.85		
EF2	oneworld	23.86	1.058	0.589
	SkyTeam	19.00		
	Star Alliance	19.25		
EF3	oneworld	18.36	3.653	0.161
	SkyTeam	25.04		
	Star Alliance	17.55		
EF4	oneworld	18.43	0.269	0.874
	SkyTeam	19.54		
	Star Alliance	20.83		
CO1	oneworld	24.57	1.961	0.375
	SkyTeam	17.17		
	Star Alliance	20.10		

CO2	oneworld	19.07	2.593	0.274
	SkyTeam	16.67		
	Star Alliance	22.33		
CO3	oneworld	15.36	1.810	0.405
	SkyTeam	19.58		
	Star Alliance	21.88		
CO4	oneworld	21.64	0.308	0.857
	SkyTeam	20.54		
	Star Alliance	19.10		
RE1	oneworld	28.64	8.994	0.011*
	SkyTeam	13.42		
	Star Alliance	20.93		
RE2	oneworld	19.57	1.509	0.470
	SkyTeam	17.00		
	Star Alliance	21.95		
RE3	oneworld	25.57	6.262	0.044**
	SkyTeam	23.92		
	Star Alliance	15.70		
RE4	oneworld	16.14	2.648	0.266
	SkyTeam	17.63		
	Star Alliance	22.78		

Note: * $p < 0.05$, ** $p < 0.01$.

Source: the authors' work

5.5. Discussion

As the response to RQ1, this study found that non-alliance airlines have more ideal CEO letters based on component numbers and CEO letter effectiveness. Also, the non-alliance group more evenly emphasize a wider range of topics than the alliance group. These facts imply that, currently, the alliance group cannot surpass its rival group in terms of quality of strategic communication.

On the other hand, as the response to RQ2, the author found that Star Alliance members have ideal CEO letters based on their component numbers. Overall, oneworld members' CEO letter effectiveness was the highest. Also, depending on the alliance, the emphasis of the CEO letters differed. These findings imply that, currently, each alliance has a differentiated strategic communication tool. The manner of strategic communication of an alliance acts as its relative competitive advantage. Considering that airlines have similar business models and products, differentiation of strategies in the aviation industry has been limited to such things as a low-price airfare policy. These findings suggest that the strategic communication of an alliance can be utilized as a possible differentiation tool and as a means of strengthening its brand power.

Even though it was not this chapter's main concern, additionally, the author found that subject groups have commonly highlighted "customer" as a significant component of CEO letters. This result might imply that the aviation industry is a high demand-driven industry. It is firmly believed that the most significant role of global airline alliances is to offer customer value to passengers (Kleymann & Seristö, 2004). Currently, joining a global alliance has become a common strategic choice of airline firms for achieving a competitive advantage and enhancing passengers' satisfaction (Wang, 2014). Also, an airline's service quality is determined by its interactions with external stakeholders, and among external stakeholders, passengers play the most important role in airline service and the industry as a whole. The recent emergence of the global alliance in the aviation industry has been affected by the change in demand of passengers pursuing seamless travel. This study's findings are evidence of the close relationship between passengers and global airline alliances.

5.6. Conclusion

This study has introduced a comprehensive framework for assessing strategic communication as a competitive advantage in itself, and also as a tool for generating other types of competitive advantage of global airline alliances. Although the difference was only moderate, the author concludes that, currently, the strategic communication of global alliance groups does not surpass that of its rival group. Also, there exists some evidence from an analysis of CEO letters that global alliances differentiate their strategic communication. Collaterally, the author found that "customer" is the most focal topic in the strategic communication of the aviation industry.

5.6.1. Theoretical contributions

As a theoretical contribution, the author has suggested a novel paradigm and method for measuring the competitive advantages of global airline alliances through an assessment of their strategic communication. Therefore, it can also be said that the author has tried to expand existing knowledge regarding this long-discussed topic in the research field.

5.6.2. Practical contributions

Our findings indicate that current global airline alliances could not achieve overwhelming competitive advantages on strategic communication quality. These results imply that global airline alliances have to make greater endeavors to increase strategic communication quality and realize their shared strategic objectives. As years go by, for the survival and growth of a company, and even of an alliance, the ability to create high-quality strategic communication will be required even more. In particular, as firms' competition has moved from firm versus firm-level competition to group versus the group-level competition, the importance of managing an alliance's collective strategic communication is increasing.

Next, the author has described what each alliance group's emphasis in CEO letters is and what the components of an ideal CEO letter are in the aviation industry. Current global airline alliances and their members can refer to and utilize our contributions as a useful tool for monitoring their own and competitors' manner of strategic communication.

Finally, the author found that many airlines, even nowadays, do not disclose their annual report and CEO letter in the aviation industry. There is no doubt that transparent information disclosure and high-quality strategic communication play an important role in satisfying the need of stakeholders to know, and in improving stakeholder's understanding of firms, so as to form a sustainable relationship between firms and stakeholders. Therefore, airlines and alliances should more actively manage their CEO letters than they have done before.

5.6.3. Limitations and future research

This study has some limitations that future research should examine. Firstly, it mainly focused on the CEO letter as the key strategic communication tool of global airline alliances, as many previous studies have pointed out. However, there are various types of strategic communication vehicles such as corporate mission statements, information on official websites, managerial responses to customer word-of-mouth (WOM), and CEO interviews with the media. Moreover, this study considered only CEO letters in official reports as its sample. Due to the growth of social network services (SNS), airline CEOs communicate more actively with the public nowadays, and communicate their messages through SNS. Future research should consequently consider and utilize various strategic communication tools and various types of CEO letters.

Finally, even if airlines and alliances devise ideal strategic communication tools, in other words, communications conveying clear strategic goals and well-established plans, the ability to realize them is another aspect of competitive advantage. Namely, the organization's mission, goals and plans should be transmitted to employees, and employees should successfully implement them. These inner processes can be critical elements in producing superior performance of firms. Thus, future research should examine the relationships between attributes of strategic communication tools and the performance of airlines and alliances.

6. Conclusion

6.1. Summary of the thesis

The thesis, in considering the aforementioned research gaps, has set four research goals: 1. making clear the current competitive advantages of global airline alliances, 2. clarifying the specific competitive advantage of each global airline alliance, 3. suggesting and introducing a timely, comprehensive and novel framework for measuring the competitive advantages of a global airline alliance, and 4. providing useful and plentiful insight for decision-making and to enhance the understanding of practitioners and aviation policymakers. To achieve these four research goals, this thesis has conducted a review of relevant literature, and three quantitative and qualitative analyses based on the resource-based view.

This thesis found that from the supply side, global airline alliances have competitive advantages that surpass their rivals. On the other hand, findings from the demand side and a survey of strategic communication found that non-alliance airlines outperform alliance airlines (in achieving research goal 1). Table 30 indicates the competitive advantages of the alliance groups and the non-alliance group.

Table 30. Comparison of competitive advantages of subject groups

Group	Side	Competitive advantage of each alliance
Alliance	Supply side	・Operating revenue (Mean Rank=40.62, p=0.001**) ・Passenger volume (Mean Rank=58.88, p=0.050) ・RPKs (Mean Rank=63.87, p=0.000**) ・Efficiency (Mean Rank=54.37, p=0.565)
	Demand side	・None
	Strategic communication	・CEO letter effectiveness (CR1 (Mean Rank=24.00), CR2 (Mean Rank=24.99) CR3 (Mean Rank=24.81), CR4 (Mean Rank=24.64), EF4 (Mean Rank=23.85), CO1 (Mean Rank=24.42), CO2 (Mean Rank=24.15))
Non-alliance	Supply side	・Load factor (Mean Rank=61.70, p=0.001**)
	Demand side	・Service rating (Mean Rank=3397.65, p=0.000**) ・Sentiment score (Mean Rank=3321.06, 0.0007**)
	Strategic communication	・larger topic component numbers of members' CEO letters (Mean: 9.5) than the alliance group ・CEO letter effectiveness (CR5 (Mean Rank=23.64, p=0.974), EF1 (Mean Rank=25.14, p=0.707), EF2 (Mean Rank=29.64, p=0.170), EF3 (Mean Rank=31.14, p=0.087), CO3 (Mean Rank=26.14, p=0.561), CO4 (Mean Rank=27.50, p=0.384), RE1 (Mean Rank=32.14, p=0.047*), RE2 (Mean Rank=27.36, p=0.400), RE3 (Mean Rank=26.21, p=0.551), RE4 (Mean Rank=28.50, p=0.275))

Source: the authors' work

Although there were no apparent differences among the three global airline alliances across all aspects, each alliance's modest relative advantages were consistently found across the three analyses. Table 31 shows the competitive advantage of each alliance.

Table 31. Comparison of competitive advantages of the three global airline alliances

Alliance	Side	Competitive advantage of each alliance
oneworld	Supply side	・Operating revenue (Mean Rank=23.00)
	Demand side	・Sentiment score (Mean Rank=2677.07) ・Service rating (Mean Rank=2722.97)
	Strategic communication	・CEO letter effectiveness (CR4(Mean Rank= 25.93>24.71, 15.10, Kruskal-Wallis chi-square=9.854, p<0.01), RE1(Mean Rank= 28.64>13.42, 20.93, Kruskal-Wallis chi-square=8.994, p<0.05), RE3(Mean Rank= 25.57>23.92, 15.70, Kruskal-Wallis chi-square=6.262, p<0.01), CR2, CR4, EF2, CO1, CO4, RE1, RE3)
SkyTeam	Supply side	・Passenger volume (Mean Rank=27.25) ・RPKs (Mean Rank=26.07) ・Load factor (Mean Rank=25.68)
	Demand side	・None
	Strategic communication	・CEO letter effectiveness (CR1(Mean Rank=24.29), CR3(Mean Rank=24.00), CR5(Mean Rank=21.67), EF1(Mean Rank=22.46), EF3(Mean Rank=25.04))
Star Alliance	Supply side	・Efficiency (Mean Rank=26.76)
	Demand side	・None
	Strategic communication	・Most topic component numbers of members' CEO letters (Mean: 9.157) ・CEO letter effectiveness ((EF4(Mean Rank=20.83), CO2(Mean Rank=22.33), CO3(Mean Rank=21.88), RE2(Mean Rank=21.95), RE4(Mean Rank=22.78))

Note: M = Mean score

Source: the authors' work

Overall, oneworld has competitive advantages based on the customer side as well as a relatively high quality of strategic communication, SkyTeam mainly has firm side competitive advantages (mainly traffic competitive advantages), and Star Alliance mainly has competitive advantages based on part of the supply side (relatively high efficiency) and a relatively high quality of strategic communication. (This result achieves research goal 2.)

6.2. Theoretical contributions

As theoretical implications of this thesis, the author tried to add a little wisdom to the long discussions regarding the competitive advantages of global airline alliances. The findings support the view that global airline alliances are beneficial for airlines because current alliance groupings have relative competitive advantages versus non-alliance airlines on financial and traffic performances. Thus, airlines can achieve their defensive goal through participating in international alliances (for achieving research goal 1).

The author have focused on the existence of the three leading alliances and their differentiation. Even though they have a recognized status in the aviation industry, very little attention has been paid to the issue of their existence and differentiation (for achieving research goal 2).

6.3. Methodological contributions

As a methodological contribution, the author has suggested and introduced timely, comprehensive, and novel frameworks for measuring the competitive advantages of a global airline alliance (for achieving research goal 3).

This thesis focused on the timing of measuring competitive advantages and the existence of the three global airline alliances; oneworld, SkyTeam, and Star Alliance. Although considerable attention has been paid to the competitive advantages of global airline alliances, most of the prior studies were based on their early and middle stage performances, which means that there are some limitations on their ability to clarify their long-term and sustained competitive advantages. The author believes that our findings are closer to capturing their sustained competitive advantages and current realities.

This thesis has focused on competitive advantages derived from not only the firm side but also the customer side. Such a comprehensive approach to measuring the competitive advantages of global airline alliances is very rare.

Besides, previous studies were mainly based on historic analysis using panel data to investigate the operational performance of the supply side. However, this thesis could avoid the prior studies' methodological limitations by maximizing the merits of a comprehensive analysis, advanced text mining methods, and a novel approach focused on alliances' strategic communication. Therefore, it can also be said that the author has tried to expand existing knowledge regarding this long-discussed topic in the research field.

6.4. Practical contributions

This practical contributions of this thesis relate to realizing research goal 4. This study's findings can inform the strategic choices and decision making of alliances and airlines.

Through the findings, global airline alliances can get insights into some strategic direction that they should strengthen and focus on. For example, from the supply side, global airline alliances have competitive advantages that surpass non-alliance airlines, but such strength is hardly recognized by customers' perceptions. Thus, global airline alliances should make more effort to present their points of difference, not only on the demand side. Besides, global airline alliances should upgrade their members' collective quality of strategic communication. Major alliances can monitor if their strategic goal was set correctly, and whether it has been successfully realized.

The findings might also be beneficial in the airlines' decision-making process; Should we participate in a global alliance? Which global alliance would be best for our strategic goals? The findings offer understanding for airline managers who are considering which alliances fit their organizational value and strategic purpose. Currently, an airline's choice of which alliance to join might affect their performance.

Also, policy-makers can understand the nature of global airline alliances and make better aviation policies related to the alliance's management and governance through this thesis findings.

6.5. Limitations and future research

This thesis has limitations that future research should examine. Although this study has suggested a relatively comprehensive research framework with adopting representative performance indicators in the airline industry studies, it is hard to say that the framework covers all aspects of the competitive advantages of global airline alliances.

Although this thesis aimed at a comprehensive framework to measure an alliance's competitive advantage, future research can focus more on alternative perspectives and methods to estimate such an advantage. As pointed out by Barney (2011), a firm's return on equity (ROE) is a main and strong tool for measuring the financial competitive advantage of the firm. However, due to limited data accessibility, this thesis could not adopt ROE into the research framework. This thesis has adopted only the cross-sectional data analysis method for realizing the study's research purposes. However, combining the panel data analysis and cross-sectional data analysis could be a more persuasive and explainable study.

Also, today's drivers of company business success steadily depend on 'soft resources' and intangible assets like IT ability, organizational culture, mission, and branding. It might be valuable to clarify how alliances' collective marketing contributes to their competitive advantages as, these days, the importance of firms' and alliances' marketing activities and global alliance as a marketing partnership is increasing.

Even if airlines and alliances devise ideal strategic communication tools, in other words, communications conveying clear strategic goals and well-established plans, the ability to realize them is another aspect of competitive advantage. Namely, the organization's mission, goals, and plans should be transmitted to employees, and employees should successfully implement them. These inner processes can be critical elements in producing superior performance of firms. Thus, future research should examine the relationships between attributes of strategic communication tools and the performance of airlines and alliances.

This thesis did not focus on other factors that might impact alliance performance such as the number of alliance members, airline size, or specific conditions of alliance affiliations. In subsequent research, it is necessary to make clear the critical drivers of alliances' superior performance.

Finally, the thesis has only focused on global airline alliance partnerships. However, there is a long list of comparable relationships, such as between Etihad and its partners. Therefore, in future research, comparable relationships should also be discussed along with airline alliance partnerships.

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Appendices

Appendix 1. Leading airline groups by revenue

Rank				Revenue	Change %		Op result ($m)		Op margin (%)	Net result ($m)		
2017	2016	Airline/Group	Country	2017 ($m)	Local	US$	2017	2016	2017	2017	2016	Notes
1	**(1)**	**American Airlines**	**USA**	**42,207**		**5.0**	**4,058**	**5,284**	**9.6**	**1,919**	**2,676**	
		Envoy Air	USA	1,157		9.3	3	15	0.2	4	-1	
2	**(2)**	**Delta Air Lines**	**USA**	**41,244**		**4.0**	**6,114**	**6,952**	**15.0**	**3,577**	**4,373**	
3	**(4)**	**Lufthansa Group**	**Germany**	**40,449**	**12.4**	**16.2**	**3,380**	**1,932**	**8.4**	**2,668**	**1,958**	Operating profit is adjusted EBIT
		Lufthansa (network)	Germany	26,509	6.7	10.0	3,092	2,340	11.7			Includes Austrian & Swiss
		Swiss	Switzerland	4,821	5.7	6.6	561	408	11.6			
		Lufthansa Cargo	Germany	2,869	24.9	21.1	273	-71	9.5			
		Eurowings [EST]	Germany	3,087	31.8	35.9						Point-to-point minus Brussels A'line
		Austrian	Austria	2,681	9.5	12.9	115	71	4.3			
		Brussels Airlines	Belgium	1,508	4.3	7.6	17	22	1.1			
4	**(3)**	**United Continental**	**USA**	**37,736**		**3.2**	**3,498**	**4,338**	**9.3**	**2,131**	**2,263**	
5	**(6)**	**FedEx**	**USA**	**36,172**		**32.2**	**2,578**	**2,769**	**7.1**			Includes TNT Express for first time
6	**(5)**	**Air France-KLM Group**	**France**	**29,313**	**3.8**	**7.0**	**1,692**	**1,157**	**5.8**	**-313**	**873**	Op profit from current operations
		Air France	France	17,995	2.7	5.9	668	205	3.7			
		KLM	Netherlands	11,755	5.5	8.8	1,035	751	8.8			
		Transavia Group	Netherlands	1,633	17.9	21.6						Inc in Air France & KLM results
7	**(7)**	**Emirates Group**	**UAE**	**27,882**	**8.1**	**8.1**	**1,438**	**996**	**5.2**	**1,120**	**670**	
8	**(8)**	**IAG**	**UK**	**26,116**	**1.8**	**4.9**	**3,100**	**2,739**	**11.9**	**2,298**	**2,152**	
		British Airways	UK	15,954	7.2	4.1	2,281	1,973	14.3			
		Iberia	Spain	5,633	6.9	10.2	86	189	1.5			
		Vueling Airlines	Spain	2,399	3.1	6.3	206	53	8.6			
		Aer Lingus	Ireland	2,113	5.3	8.5	306	257	14.5			Op result before exceptional items
9	**(9)**	**Southwest Airlines**	**USA**	**21,171**		**3.7**	**3,515**	**3,760**	**16.6**	**3,488**	**2,244**	
10	**(11)**	**China Southern Air**	**China**	**18,967**	**11.2**	**9.9**	**1,360**	**1,895**	**7.2**	**1,025**	**886**	
		Xiamen Airlines	China	4,457	44.1	42.5	450	348	10.1	213	177	
11	**(10)**	**Air China**	**China**	**18,425**	**7.7**	**6.5**	**1,746**	**2,634**	**9.5**	**1,284**	**1,165**	
		Shenzhen Airlines	China	4,107	6.5	5.3				214	236	
		Air China Cargo	China	1,673	48.9	47.2				164	2	
12	**(12)**	**ANA Holdings**	**Japan**	**17,805**	**11.7**	**9.2**	**1,486**	**1,344**	**8.4**	**1,299**	**912**	
		All Nippon Airways	Japan	15,633	12.7	10.2	1,417	1,288	9.1			Includes Peach and Vanilla
13	**(14)**	**China Eastern Airlines**	**China**	**16,335**	**5.3**	**4.2**	**1,401**	**1,876**	**8.6**	**1,013**	**744**	
		Shanghai Airlines	China	1,851	8.9	7.8				179	125	
		China Eastern Yunnan	China	1,328	-5.9	-7.0				103	116	
		China Eastern Jiangsu	China	1,227	13.1	11.9						
14	**(17)**	**Air Canada**	**Canada**	**12,534**	**10.7**	**13.0**	**1,052**	**1,017**	**8.4**	**1,572**	**662**	
15	**(15)**	**Japan Airlines Group**	**Japan**	**12,490**	**7.3**	**5.0**	**1,576**	**1,573**	**12.6**	**1,223**	**1,516**	
16	**(14)**	**Cathay Pacific Group**	**Hong Kong**	**12,480**	**4.9**	**4.4**	**-292**	**-68**	**-2.4**	**-162**	**-74**	Op profit before exceptionals
17	**(16)**	**Qantas Group**	**Australia**	**12,103**	**-0.9**	**2.8**	**1,198**	**1,273**	**9.9**	**643**	**748**	Year ending June 2017
		Jetstar	Australia	2,713	-1.0	2.7	314	329	11.6			
18	**(19)**	**Singapore Airlines**	**Singapore**	**11,693**	**6.3**	**8.9**	**782**	**450**	**6.7**	**693**	**319**	
		Singapore Airlines	Singapore	8,570	4.4	7.0	520	279	6.1	399	187	
		SIA Cargo	Singapore	1,642	13.5	16.3	110	2	6.7	102	-92	
		Scoot	Singapore	1,169	13.8	16.5	57	49	4.9	29	-63	
19	**(18)**	**Qatar Airways Group**	**Qatar**	**11,597**	**7.2**	**7.2**		**574**			**542**	
20	**(21)**	**Turkish Airlines**	**Turkey**	**11,185**	**36.2**	**13.3**	**1,252**	**-123**	**11.2**	**175**	**-16**	
21	**(20)**	**Korean Air**	**South Korea**	**10,518**	**2.6**	**6.2**	**852**	**929**	**8.1**	**809**	**-509**	
22	**(22)**	**LATAM Airlines Group**	**Chile**	**10,177**	**6.8**	**6.8**	**715**	**568**	**7.0**	**155**	**69**	
23	**(23)**	**Aeroflot Group**	**Russia**	**9,168**	**7.5**	**22.5**	**695**	**954**	**7.6**	**397**	**586**	IFRS

Rank				Revenue	Change %		Op result ($m)		Op margin (%)	Net result ($m)		
2017	2016	Airline/Group	Country	2017 ($m)	Local	US$	2017	2016	2017	2017	2016	Notes
24	(27)	**HNA Group**	**China**	**8,899**	**47.3**	**45.6**	**638**	**468**	**7.2**	**577**	**512**	Now includes Tianjin & GX Airlines
		Hainan Airlines	China	5,019	18.5	17.2	512	292	10.2	420	327	
		Tianjin Airlines	China	1,689	25.1	23.7				88	64	
25	(24)	**Ryanair**	**Ireland**	**8,422**	**7.6**	**15.8**	**1,964**	**1,679**	**23.3**	**1,708**	**1,440**	
26	(28)	**Alaska Air Group**	**USA**	**7,933**		**33.8**	**1,260**	**1,349**	**15.9**	**1,028**	**814**	
		Alaska Airlines	USA	6,288		7.9	1,291	1,438	20.5	1,074	879	
		Virgin America	USA	1,641		-1.5	89	206	5.4	-1	102	US DOT
27	(25)	**JetBlue Airways**	**USA**	**7,015**	**5.8**	**5.8**	**1,000**	**1,312**	**14.3**	**1,147**	**759**	
28	(26)	**EasyJet**	**UK**	**6,427**	**8.1**	**-2.2**	**514**	**718**	**8.0**	**388**	**615**	Y/E September 2017
29	(29)	**Etihad Airways**	**UAE**	**6,100**	**3.4**	**3.4**				**-1,520**	**-1,950**	
30	(30)	**Saudia** EST	**Saudi Arabia**	**6,000**	**5.2**	**4.3**						FAB estimate
31	(31)	**Thai Airways Int'l**	**Thailand**	**5,644**	**5.0**	**9.6**	**-86**	**-40**	**-1.5**	**-61**	**1**	
32	(32)	**Asiana Airlines**	**South Korea**	**5,554**	**8.1**	**12.0**	**224**	**221**	**4.4**	**199**	**45**	
33	(33)	**UPS Airlines**	**USA**	**5,274**	**10.5**	**10.5**	**205**	**244**	**3.9**	**74**	**122**	
34	(34)	**SAS Group**	**Sweden**	**4,940**	**8.1**	**6.4**	**253**	**223**	**5.1**	**133**	**153**	Y/E October 2017
35	(37)	**China Airlines**	**Taiwan**	**4,615**	**9.6**	**16.6**	**243**	**139**	**5.3**	**73**	**18**	
36	(35)	**Avianca Holdings**	**Panama**	**4,440**	**4.7**	**7.3**	**294**	**258**	**6.6**	**82**	**44**	
37	(38)	**Garuda Indonesia**	**Indonesia**	**4,177**	**8.8**	**8.1**	**-76**	**99**	**-1.8**	**-213**	**9**	
38	(41)	**EVA Air**	**Taiwan**	**4,137**	**9.4**	**15.4**	**196**	**154**	**4.8**	**168**	**175**	
39	(36)	**Thomas Cook Group**	**UK**	**4,056**	**12.7**	**2.0**	**146**	**117**	**3.6**			Group airline data, Y/E Sep 2017
		Condor	Germany	1,740	9.0	-1.4	15	-14	0.9			Y/E Sep 2017
40	(39)	**Virgin Australia**	**Australia**	**3,804**	**0.5**	**4.2**	**-92**	**-187**	**-2.4**	**-140**	**-163**	Y/E June 2017
41	(47)	**Norwegian**	**Norway**	**3,755**	**19.3**	**21.4**	**-243**	**217**	**-6.5**	**-36**	**135**	
42	(49)	**IndiGo**	**India**	**3,716**	**23.7**	**28.5**	**485**	**320**	**13.1**	**348**	**248**	
43	(43)	**Jet Airways**	**India**	**3,714**	**4.0**	**8.0**	**-119**	**221**	**-3.2**	**-119**	**221**	
44	(42)	**Air New Zealand**	**NZ**	**3,651**	**-2.3**	**4.3**	**387**	**557**	**10.6**	**273**	**310**	Y/E June 2017
45	(46)	**WestJet**	**Canada**	**3,472**	**9.2**	**11.4**	**339**	**333**	**9.8**	**219**	**223**	
46	(40)	**Virgin Atlantic Airways**	**UK**	**3,466**	**-1.0**	**-3.9**	**-42**	**205**	**-1.2**	**-63**	**250**	Y/EJ une 2017
47	(58)	**TAP Air Portugal**	**Portugal**	**3,337**	**28.2**	**32.1**	**121**	**14**	**3.7**	**26**	**-25**	
48	(44)	**Alitalia**	**Italy**	**3,314**	**1.2**	**4.3**	**-598**	**-645**	**-18.1**	**-564**	**-397**	
49	(51)	**Gol**	**Brazil**	**3,303**	**7.2**	**15.2**	**309**	**202**	**9.4**	**118**	**320**	
50	(48)	**Air India**	**India**	**3,263**	**9.3**	**7.1**	**44**	**16**	**1.4**	**-861**	**-585**	DGAC, Y/E March 17
51	(50)	**Grupo Aeromexico**	**Mexico**	**3,257**	**14.0**	**13.0**	**165**	**191**	**5.1**	**1**	**59**	
52	(56)	**Ethiopian Airlines**	**Ethiopia**	**3,207**	**29.4**	**22.3**	**275**	**278**	**8.6**	**308**	**280**	Y/E June 17
53	(45)	**SkyWest, Inc**	**USA**	**3,204**	**2.7**	**2.7**	**388**	**-173**	**12.1**	**429**	**-162**	
54	(52)	**Sichuan Airlines**	**China**	**3,018**	**8.7**	**7.6**				**103**	**155**	
55	(55)	**Finnair**	**Finland**	**3,008**	**10.6**	**14.0**	**256**	**128**	**8.5**	**193**	**94**	
56	(68)	**Jet2**	**UK**	**2,964**	**45.8**	**27.9**	**169**	**128**	**5.7**			Leisure Travel segment
57	(57)	**Vietnam Airlines**	**Vietnam**	**2,816**	**12.2**	**10.6**	**372**	**399**	**13.2**	**84**	**76**	
58	(53)	**Malaysia Airlines** EST	**Malaysia**	**2,800**	**2.0**	**0.0**						FAB estimate, Y/E Sep 17
59	(59)	**Hawaiian Airlines**	**USA**	**2,696**	**10.0**	**10.0**	**484**	**416**	**18.0**	**364**	**235**	
60	(61)	**Spirit Airlines**	**USA**	**2,648**	**14.0**	**14.0**	**389**	**444**	**14.7**	**421**	**265**	
61	(60)	**Philippine Airlines**	**Philippines**	**2,569**	**13.2**	**6.9**	**-52**	**202**	**-2.0**	**-128**	**103**	
62	(62)	**Copa Airlines**	**Panama**	**2,528**	**13.8**	**13.8**	**440**	**276**	**17.4**	**370**	**335**	
63	(54)	**TUI Airways**	**UK**	**2,495**	**3.8**	**-6.1**	**194**	**507**	**7.8**	**155**	**418**	UK Company House, Y/E Sep 17
64	(65)	**AirAsia Group***	**Malaysia**	**2,454**	**17.3**	**13.3**	**486**	**484**	**19.8**	**372**	**311**	2016 proforma (see notes)
		AirAsia	Malaysia	1,677	4.6	0.9	434	636		390	434	
65	(66)	**Shandong Airlines**	**China**	**2,450**	**20.0**	**18.7**	**91**	**82**	**3.7**	**73**	**80**	
66	(70)	**Azul**	**Brazil**	**2,433**	**16.8**	**25.6**	**270**	**100**	**11.1**	**165**	**-37**	
67	(63)	**South African Airways**	**South Africa**	**2,378**	**0.1**	**8.5**	**-291**	**-27**	**-12.2**	**-431**	**-105**	
68	(64)	**Air Transat**	**Canada**	**2,297**	**4.0**	**5.3**	**27**	**-12**	**1.2**	**106**	**-28**	Y/E October 2017
69	(74)	**Wizz Air**	**Hungary**	**2,294**	**24.0**	**33.5**	**344**	**270**	**15.0**	**324**	**269**	
70	(72)	**Cargolux**	**Luxembourg**	**2,264**	**29.0**	**29.0**				**122**	**6**	

Source: Flight global world airline rankings 2018

Appendix 2. Leading airline groups by traffic

Rank				Traffic 2017		Capacity 2017		Load Factor	Passengers 2017			
2017	2016	Airline/Group	Country	RPKs (m)	Change	ASKs (m)	Change	(%)	Pax (m)	Change	Year-end	Notes
1	(1)	**American Airlines Group**	**USA**	**364,191**	**1.3%**	**444,877**	**1.1%**	**81.9**	**199.6**	**0.5%**	Dec	
		American Airlines	USA	323,974	1.2%	392,284	0.9%	82.6	144.9	0.3%	Dec	
		Envoy Air	USA	9,412	7.9%	12,223	11.2%	77.0	11.8	0.0%	Dec	
2	(2)	**Delta Air Lines Group**	**USA**	**350,299**	**2.2%**	**409,209**	**1.0%**	**85.6**	**186.4**	**1.4%**	**Dec**	
		Delta Air Lines	USA	316,784	2.7%	367,522	1.4%	86.2	145.9	1.8%	Dec	DOT
		Endeavor Air	USA	9,358	-1.1%	11,816	-0.6%	79.2	11.8	7.5%	Dec	
3	(3)	**United Continental**	**USA**	**347,963**	**2.8%**	**422,179**	**3.5%**	**82.4**	**148.1**	**3.4%**	**Dec**	
		United Airlines	USA	311,224	3.9%	377,386	4.4%	82.5	107.4	7.1%	Dec	DOT, Mainline only
4	(4)	**Emirates Airline**	**UAE**	**292,221**	**5.6%**	**377,060**	**2.4%**	**77.5**	**58.5**	**4.3%**	**Mar**	
5	(7)	**Lufthansa Group**	**Germany**	**261,156**	**15.2%**	**322,821**	**12.7%**	**80.9**	**130.0**	**18.6%**	**Dec**	
		Lufthansa	Germany	153,168	5.0%	187,762	1.8%	81.6	66.2	6.1%	Dec	
		Swiss	Switzerland	45,597	7.8%	55,966	6.1%	81.5	18.9	5.4%	Dec	
		Eurowings	Germany	27,389	36.2%	33,963	34.4%	80.6	23.5	27.7%	Dec	Calculation, see notes
		Austrian	Austria	20,024	7.6%	26,075	6.6%	76.8	12.9	12.9%	Dec	
		Brussels Airlines	Belgium	15,257	20.2%	19,425	14.5%	78.5	9.1	17.2%	Dec	
6	(5)	**IAG**	**UK**	**252,819**	**3.8%**	**306,185**	**2.6%**	**82.6**	**104.8**	**4.1%**	**Dec**	
		British Airways	UK	146,561	1.5%	179,077	0.7%	81.8	45.2	1.9%	Dec	
		Iberia	Spain	54,941	7.6%	65,325	4.9%	84.1	18.7	5.1%	Dec	Pax estimated
		Vueling Airlines	Spain	29,125	3.8%	34,378	1.5%	84.7	29.6	6.5%	Dec	
		Aer Lingus	Ireland	21,412	11.6%	26,386	12.1%	81.1	11.0	3.5%	Dec	Pax estimated
7	(6)	**Air France-KLM**	**France**	**248,476**	**4.3%**	**286,190**	**2.6%**	**86.8**	**83.9**	**4.7%**	**Dec**	Includes Hop/Transavia
		Air France	France	144,989	3.2%	169,123	1.4%	85.7	51.3	3.0%	Dec	
		KLM	Netherlands	103,487	5.9%	117,066	4.5%	88.4	32.7	7.6%	Dec	
		Transavia	Netherlands	25,793	12.2%	28,546	9.7%	91.0	15.0	11.2%	Dec	Inc in Air France & KLM
8	(8)	**China Southern Airlines**	**China**	**230,697**	**11.9%**	**280,646**	**9.6%**	**82.2**	**126.3**	**10.2%**	**Dec**	
		China Southern Airlines	China	175,808	8.6%	212,228	6.9%	82.8	91.4	7.7%	Dec	ICAO
		Xiamen Airlines	China	44,236	19.0%	55,485	13.7%	79.7	27.2	14.9%	Dec	ICAO
9	(9)	**Southwest Airlines**	**USA**	**207,802**	**3.4%**	**247,731**	**3.6%**	**83.9**	**157.8**	**3.9%**	**Dec**	
10	(10)	**Air China Group**	**China**	**201,090**	**6.9%**	**247,872**	**6.4%**	**81.1**	**101.6**	**5.2%**	**Dec**	
		Air China	China	147,165	8.5%	181,887	7.6%	80.9	66.1	5.9%	Dec	ICAO
		Shenzhen Airlines	China	49,510	4.0%	54,153	4.0%	82.2	28.3	2.5%	Dec	ICAO
11	(11)	**China Eastern Airlines**	**China**	**183,152**	**9.3%**	**225,967**	**9.6%**	**81.1**	**110.8**	**8.9%**	**Dec**	
		China Eastern Airlines	China	149,950	8.3%	185,571	8.9%	80.8	87.7	8.4%	Dec	ICAO
		Shanghai Airlines	China	22,612	10.2%	28,000	8.6%	79.5	15.4	7.3%	Dec	ICAO, ASK/LF estimated
12	(12)	**Ryanair** [EST]	**Ireland**	**160,000**	**9.0%**	**167,500**	**7.9%**	**95.5**	**130.3**	**8.9%**	Mar	RPK/ASK estimated
13	(13)	**Qatar Airways**[*]	**Qatar**	**146,023**	**2.8%**	**203,650**	**10.0%**	**71.7**	**29.2**	**-8.8%**	Mar	LF calculated, see notes
14	(16)	**Air Canada Group**	**Canada**	**136,985**	**11.3%**	**166,519**	**11.6%**	**82.3**	**48.1**	**7.3%**	**Dec**	
15	(14)	**Turkish Airlines**	**Turkey**	**136,947**	**7.9%**	**173,073**	**1.6%**	**79.1**	**68.6**	**9.3%**	**Dec**	
16	(20)	**Aeroflot Group**	**Russia**	**130,222**	**16.2%**	**157,211**	**14.2%**	**82.8**	**50.1**	**15.4%**	**Dec**	Inc Pobeda/Aurora
		Aeroflot	Russia	91,810	11.0%	112,246	10.3%	81.8	32.8	13.3%	Dec	
		Rossiya Airlines	Russia	28,119	37.3%	33,301	31.9%	84.4	11.2	26.7%	Dec	
17	(17)	**Singapore Airlines**	**Singapore**	**129,798**	**6.3%**	**159,381**	**3.1%**	**81.4**	**33.7**	**6.5%**	**Mar**	
		Singapore Airlines	Singapore	95,855	3.2%	118,127	0.4%	81.1	19.5	2.7%	Mar	
		Scoot	Singapore	25,600	15.9%	29,888	11.6%	85.7	9.5	11.3%	Mar	
		SilkAir	Singapore	8,344	16.9%	11,366	12.7%	73.4	4.7	14.2%	Mar	

Rank				Traffic 2017		Capacity 2017		Load Factor	Passengers 2017			
2017	2016	Airline/Group	Country	RPKs (m)	Change	ASKs (m)	Change	(%)	Pax (m)	Change	Year-end	Notes
18	(15)	Cathay Pacific Group	Hong Kong	126,663	2.6%	150,138	2.8%	84.4	34.8	1.4%	Dec	
		Cathay Pacific	Hong Kong	111,761	1.4%	131,151	1.6%	85.2	24.1	0.1%	Dec	ICAO
		Cathay Dragon	Hong Kong	14,902	12.6%	18,987	12.0%	78.5	10.7	7.7%	Dec	
19	(23)	Hainan Airlines Group	China	121,223	23.3%	140,843	24.4%	86.1	71.7	18.3%	Dec	See notes
		Hainan Airlines	China	62,853	15.7%	74,362	19.3%	84.5	30.6	11.7%	Dec	ICAO
		Lucky Air	China	13,963	27.0%	16,115	30.7%	86.6	10.5	23.5%	Dec	
		Tianjin Airlines	China	18,237	21.9%	21,092	22.2%	86.5	13.8	14.0	Dec	RPK/ASK estimated
20	(18)	Qantas Group	Australia	121,178	1.8%	150,323	1.1%	80.6	53.7	1.9%	Jun	
		Qantas	Australia	80,695	1.8%	101,620	1.8%	79.4	29.8	1.2%	Jun	
		Jetstar Group	Australia	33,855	2.6%	40,623	0.6%	83.3	19.6	3.2%	Jun	
21	(19)	LATAM Airlines Group	Chile	115,693	1.8%	136,398	1.1%	84.8	67.1	0.2%	Dec	
		LATAM Airlines Brazil	Brazil	57,666	1.2%	68,596	0.4%	84.1	33.5	-0.7%	Dec	ANAC
		LATAM Airlines Chile	Chile	24,368	1.2%	28,546	1.7%	85.4	8.2	4.4%	Dec	
		LATAM Airlines Peru	Peru	16,468	14.5%	19,635	11.6%	83.9	9.9	6.5%	Dec	
22	(21)	Etihad Airways	UAE	90,240	0.8%	114,984	1.0%	78.5	18.2	0.6%	Dec	AACO
23	(24)	EasyJet	UK	89,685	10.0%	95,792	9.2%	93.6	80.2	9.7%	Sep	CAA
24	(22)	ANA Holdings	Japan	89,405	5.7%	122,803	3.0%	72.8	53.9	3.5%	Mar	
25	(25)	Alaska Air Group	USA	84,210	7.3%	99,871	7.1%	84.3	44.0	5.0%	Dec	
		Alaska Airlines	USA	56,798	7.4%	66,716	7.1%	85.1	26.1	7.0%	Dec	DOT
		Virgin America	USA	20,814	6.3%	24,906	6.2%	83.6	8.4	4.4%	Dec	
26	(26)	Korean Air	South Korea	77,842	2.5%	98,131	1.5%	79.3	26.9	-0.1%	Dec	
27	(27)	JetBlue Airways	USA	76,009	3.6%	90,116	4.5%	84.3	40.0	4.6%	Dec	
28	(29)	Thai Airways International	Thailand	68,102	14.0%	85,388	5.4%	79.8	20.0	9.9%	Dec	
29	(28)	Japan Airlines Group	Japan	67,656	3.8%	87,551	1.8%	77.3	42.6	3.9%	Mar	
		Japan Airlines	Japan	62,867	3.6%	80,725	1.5%	77.9	34.1	3.5%	Mar	
30	(32)	Norwegian	Norway	63,320	24.7%	72,341	24.9%	87.5	33.1	13.1%	Dec	
31	(31)	Saudia	Saudi Arabia	63,201	18.2%	87,378	17.5%	72.3	31.4	11.3%	Dec	Scheduled services only
32	(30)	Thomas Cook Group	UK	62,943	5.6%	70,171	5.1%	89.7	18.5	5.1%	Sep	
		Condor	Germany	28,592	4.8%	32,155	4.4%	88.9	7.6	4.0%	Sep	ICAO
		Thomas Cook Airlines	UK	26,516	12.4%	29,388	11.9%	90.2	7.63	10.5%	Sep	CAA
33	(34)	IndiGo	India	52,503	19.9%	60,562	16.9%	86.7	49.2	19.7%	Dec	DGCA
34	(33)	AirAsia Group	Malaysia	50,805	11.0%	58,311	9.5%	87.1	39.1	11.4%	Dec	Inc Indonesia/Philippines
		AirAsia	Malaysia	38,060	9.8%	43,270	7.9%	88.0	29.2	10.6%	Dec	
35	(45)	Wizz Air	Hungary	47,210	25.5%	51,537	23.6%	91.6	29.6	24.5%	Mar	
36	(38)	Jet Airways	India	46,414	12.9%	55,591	10.0%	83.5	27.0	10.8%	Mar	
37	(35)	Garuda Indonesia	Indonesia	46,300	6.8%	62,024	5.6%	74.6	36.2	3.7%	Dec	
		Garuda Indonesia	Indonesia	36,488	4.9%	49,751	4.6%	73.3	24.0	0.4%	Dec	Scheduled services only
		Citilink Indonesia	Indonesia	9,791	14.1%	12,273	9.8%	79.8	12.3	10.8%	Dec	
38	(40)	EVA Air	Taiwan	45,841	12.0%	58,570	14.5%	78.3	12.1	8.3%	Dec	
39	(36)	SkyWest Inc	USA	42,503	-5.6%	53,020	-3.4%	80.3	51.5	-3.8%	Dec	
		SkyWest Airlines	USA	30,298	7.3%	37,387	9.1%	81.0	35.8	14.7%	Dec	DOT
		ExpressJet Airlines	USA	12,246	-27.2%	15,633	-25.3%	78.3	15.5	-30.1%	Dec	
40	(39)	Air India	India	44,729	9.1%	56,910	5.9%	78.6	20.7	4.7%	Dec	DGCA
41	(37)	Asiana Airlines	South Korea	44,211	4.1%	53,947	4.9%	82.0	19.3	0.2%	Dec	
42	(46)	Lion Group**	Indonesia	43,913	17.2%	55,912	19.9%	78.5	51.8	15.6%	Dec	Calculation, see notes
		Lion Air	Indonesia	34,820	12.6%	43,353	15.3%	80.3	35.4	9.3%	Dec	DGCA, scheduled only
43	(43)	Sichuan Airlines	China	42,285	10.3%	50,441	11.7%	83.8	24.5	6.5%	Dec	ICAO except pax number
44	(42)	WestJet	Canada	41,680	8.1%	49,876	5.8%	83.6	24.1	10.2%	Dec	
45	(44)	Avianca	Colombia	40,243	5.3%	48,401	2.7%	83.1	29.5	-0.1%	Dec	
46	(41)	China Airlines	China	40,171	3.8%	50,189	1.6%	80.0	15.1	2.9%	Dec	
47	(50)	SAS	Sweden	40,078	8.5%	52,217	7.4%	76.8	30.0	3.4%	Oct	
48	(52)	Grupo Aeromexico	Mexico	39,836	14.6%	48,906	12.8%	81.5	20.7	4.9%	Dec	
		Aeromexico	Mexico	32,682	16.3%	42,471	23.9%	77.0	11.7	4.8%	Dec	ICAO/DGAC
49	(53)	Spirit Airlines	USA	39,590	14.0%	47,615	16.1%	83.1	24.2	12.0%	Dec	

Rank				Traffic 2017		Capacity 2017		Load Factor	Passengers 2017			
2017	2016	Airline/Group	Country	RPKs (m)	Change	ASKs (m)	Change	(%)	Pax (m)	Change	Year-end	Notes
50	(47)	**Virgin Australia Holdings**	**Australia**	**37,576**	**0.7%**	**46,833**	**-0.4%**	**80.2**	**24.2**	**2.1%**	**Jun**	
		Virgin Australia	Australia	31,798	-1.4%	40,327	-2.0%	78.9	19.7	0.0%	Jun	
51	(51)	**Gol**	**Brazil**	**37,230**	**3.6%**	**46,694**	**0.8%**	**79.7**	**32.4**	**-0.7%**	**Dec**	
52	(54)	**TUI Airways**	**UK**	**37,078**	**7.7%**	**39,645**	**8.4%**	**93.5**	**11.3**	**3.7%**	**Dec**	CAA
53	(56)	**Philippine Airlines**	**Philippine**	**36,973**	**13.8%**	**51,793**	**10.2%**	**71.4**	**14.5**	**8.0%**	**Dec**	
54	(49)	**Virgin Atlantic Airways**	**UK**	**36,139**	**-2.7%**	**46,154**	**-2.2%**	**78.3**	**5.3**	**-1.9%**	**Dec**	
55	(48)	**Alitalia** EST	**Italy**	**36,000**	**0.7%**	**45,750**	**0.5%**	**78.7**	**22.5**	**5.6%**	**Dec**	
56	(60)	**Ethiopian Airlines**	**Ethiopia**	**34,927**	**20.6%**	**48,364**	**13.5%**	**72.2**	**9.6**	**16.9%**	**Dec**	
57	(55)	**Air New Zealand**	**New Zealand**	**34,814**	**4.8%**	**42,169**	**6.3%**	**82.6**	**16.0**	**5.2%**	**Jun**	
58	(60)	**TAP Air Portugal**	**Portugal**	**34,711**	**21.6%**	**41,864**	**15.4%**	**82.9**	**14.3**	**22.0%**	**Dec**	ICAO
59	(58)	**Vietnam Airlines**	**Vietnam**	**34,572**	**7.4%**	**40,569**	**5.3%**	**85.2**	**21.2**	**6.5%**	**Dec**	ICAO
60	(64)	**Shandong Airlines**	**China**	**32,984**	**24.8%**	**39,665**	**16.7%**	**83.2**	**23.2**	**24.6%**	**Dec**	
61	(57)	**Malaysia Airlines**	**Malaysia**	**32,983**	**4.6%**	**42,327**	**-0.2%**	**77.9**	**14.0**	**0.4%**	**Dec**	ICAO
62	(61)	**Copa Airlines**	**Panama**	**32,042**	**12.6%**	**38,512**	**8.8%**	**83.2**	**9.5**	**10.5%**	**Dec**	
63	(63)	**Finnair**	**Finland**	**30,750**	**13.6%**	**36,922**	**8.9%**	**83.3**	**11.9**	**9.2%**	**Dec**	
64	(65)	**Frontier Airlines**	**USA**	**30,425**	**18.1%**	**35,229**	**19.3%**	**86.4**	**16.8**	**12.8%**	**Dec**	DOT
65	(68)	**Spring Airlines**	**China**	**30,248**	**22.2%**	**33,400**	**23.7%**	**90.6**	**17.2**	**20.9%**	**Dec**	
66	(62)	**S7 Airlines Group**	**Russia**	**29,821**	**10.1%**	**35,075**	**9.7%**	**85.0**	**14.2**	**8.4%**	**Dec**	
		S7 Airlines	Russia	19,100	5.9%	22,418	5.9%	85.2	9.9	4.6%	Dec	
		Globus	Russia	10,721	18.5%	12,657	17.1%	84.7	4.3	18.4%	Dec	
67	(69)	**Pegasus**	**Turkey**	**28,910**	**16.9%**	**34,428**	**12.8%**	**84.6**	**27.8**	**15.4%**	**Dec**	ICAO for RPK
68	(71)	**AirAsia X**	**Malaysia**	**28,578**	**23.2%**	**35,054**	**19.5%**	**79.0**	**5.8**	**23.7%**	**Dec**	
69	(73)	**Juneyao Airlines**	**China**	**27,411**	**24.1%**	**31,529**	**22.3%**	**86.9**	**16.7**	**25.2%**	**Dec**	
70	(66)	**Hawaiian Airlines**	**USA**	**26,254**	**5.3%**	**30,582**	**3.4%**	**85.8**	**11.5**	**4.1%**	**Dec**	
71	(76)	**Capital Airlines**	**China**	**25,662**	**23.3%**	**28,687**	**24.9%**	**89.5**	**15.4**	**17.6%**	**Dec**	ICAO except pax
72	(72)	**Volaris**	**Mexico**	**25,610**	**11.1%**	**30,347**	**12.9%**	**84.4**	**16.4**	**9.5%**	**Dec**	
73	(70)	**Air Europa**	**Spain**	**25,355**	**6.5%**	**30,755**	**8.5%**	**82.5**	**10.6**	**-0.8%**	**Dec**	
74	(74)	**El Al**	**Israel**	**22,527**	**2.0%**	**26,660**	**1.2%**	**84.5**	**5.6**	**2.4%**	**Dec**	ICAO
75	(81)	**Oman Air**	**Oman**	**21,960**	**19.0%**	**29,405**	**18.6%**	**74.7**	**8.6**	**11.7%**	**Dec**	
76	(75)	**Cebu Pacific Air**	**Philippines**	**21,301**	**0.4%**	**26,233**	**0.9%**	**81.2**	**19.7**	**3.2%**	**Dec**	
77	(82)	**Azul**	**Brazil**	**20,760**	**13.8%**	**25,300**	**10.6%**	**82.1**	**22.0**	**6.8%**	**Dec**	Scheduled only
78	(89)	**Jet2**	**UK**	**20,670**	**44.9%**	**22,808**	**45.3%**	**90.6**	**9.7**	**44.3%**	**Dec**	CAA
79	(78)	**Aerolineas Argentinas**	**Argentina**	**20,390**	**7.7%**	**27,349**	**3.8%**	**80.4**	**9.3**	**12.4%**	**Dec**	
80	(80)	**Flydubai** EST	**UAE**	**20,000**	**8.1%**	**27,851**	**7.1%**	**72.0**	**10.9**	**0.9%**	**Dec**	RPK/LF estimated
81	(90)	**Vietjet**	**Vietnam**	**19,912**	**44.0%**	**23,163**	**38.4%**	**86.0**	**16.6**	**25.8%**	**Dec**	
82	(84)	**Thai AirAsia**	**Thailand**	**19,523**	**12.9%**	**22,379**	**8.5%**	**87.2**	**19.8**	**15.1%**	**Dec**	ICAO
83	(79)	**Air Transat** EST	**Canada**	**19,500**	**1.3%**	**21,500**	**2.4%**	**90.7**	**4.5**	**2.3%**	**Oct**	
84	(87)	**Ural Airlines**	**Russia**	**19,197**	**25.1%**	**23,241**	**18.6%**	**82.6**	**8.0**	**23.7%**	**Dec**	
85	(77)	**South African Airways**	**South Africa**	**18,942**	**-8.4%**	**25,893**	**-7.5%**	**73.2**	**6.0**	**-7.8%**	**Mar**	
86	(83)	**Egyptair**	**Egypt**	**18,476**	**5.9%**	**26,780**	**1.2%**	**69.0**	**8.5**	**-0.6%**	**Dec**	ICAO
87	(96)	**Azur Air**	**Russia**	**17,965**	**47.7%**	**18,597**	**44.9%**	**96.6**	**3.7**	**59.9%**	**Dec**	
88	(86)	**Allegiant Air**	**USA**	**17,871**	**8.0%**	**21,902**	**10.0%**	**81.6**	**12.3**	**10.6%**	**Dec**	
89	(88)	**SpiceJet**	**India**	**17,504**	**21.7%**	**18,797**	**19.3%**	**93.1**	**17.3**	**20.9%**	**Dec**	
90	(85)	**Air Arabia**	**UAE**	**16,225**	**-2.5%**	**20,538**	**0.0%**	**79.0**	**8.5**	**0.0%**	**Dec**	RPK is FAB calculation
91	(100)	**Republic Airline**	**USA**	**16,161**	**42.3%**	**21,264**	**45.4%**	**76.0**	**16.9**	**46.9%**	**Dec**	DOT
92	(90)	**Royal Air Maroc**	**Morocco**	**15,874**	**14.0%**	**23,508**	**4.3%**	**67.5**	**7.3**	**9.0%**	**Dec**	Scheduled only
93	(94)	**SriLankan Airlines**	**Sri Lanka**	**15,281**	**22.7%**	**18,488**	**18.4%**	**82.7**	**5.8**	**31.3%**	**Mar**	
94	(95)	**Interjet**	**Mexico**	**15,061**	**21.8%**	**19,637**	**22.1%**	**76.7**	**12.4**	**11.4%**	**Dec**	DGCA, scheduled only
95	(105)	**Jeju Air**	**South Korean**	**14,084**	**32.8%**	**15,780**	**28.8%**	**89.3**	**10.5**	**20.7%**	**Dec**	
96	(91)	**Pakistan Int'l Airlines**	**Pakistan**	**14,000**	**1.8%**	**19,200**	**-0.1%**	**73.2**	**5.5**	**0.9%**	**Dec**	
97	(92)	**Aegean Airlines**	**Greece**	**13,851**	**8.9%**	**16,657**	**1.7%**	**83.2**	**13.2**	**3.9%**	**Dec**	
98	(98)	**SunExpress**	**Turkey**	**13,791**	**16.8%**	**17,019**	**17.9%**	**81.7**	**7.3**	**15.9%**	**Dec**	
99	(99)	**Ukraine International**	**Ukraine**	**13,459**	**17.9%**	**16,839**	**18.9%**	**79.9**	**6.9**	**15.0%**	**Dec**	
100	(107)	**Avianca Brazil**	**Brazil**	**12,828**	**25.3%**	**15,178**	**24.2%**	**84.5**	**10.9**	**18.0%**	**Dec**	

Source: Flight global world airline rankings 2018

Appendix 3. Efficiency ranking of airlines

Overall ranking									Distance-based ranking								
								<800 km			800-3800 km			>3800 km		
Rank	Airline	Country	EP* '18	EP* '17	EK*	Type*	Pax (in Mio.)*	EP*	EK*	Rank	EP*	EK*	Rank	EP*	EK*	Rank
1	TUI Airways	UK	79,3	78,9	B	Charter	10,9	69,1	C	17	79,4	B	2	79,2	B	1
2	LATAM Airlines Brasil[1]	Brasilien	78,8	72,3	B	Net Carrier	33,8	76,3	C	3	82,2	B	1	66,0	C	18
3	China West Air	China	77,8	78,6	C	Regional	7,2	76,7	C	2	77,9	C	4			
4	TUIfly	Deutschland	77,6	78,2	C	Charter	4,6	72,9	C	10	77,7	C	5	76,3	C	3
5	Transavia.com France	Frankreich	76,3	-	C	Charter	5,1	77,8	C	1	76,3	C	7	73,8	C	4
6	SunExpress	Türkei	74,9	-	C	Charter	6,3	39,8	E	101	74,9	C	9			
7	Thomas Cook Airlines	UK	74,7	72,9	C	Charter	6,6	54,5	D	64	78,6	B	3	68,8	C	9
8	Air Europa Express	Spanien	73,4	-	C	Regional	0,2	73,4	C	9						
9	Condor Flugdienst	Deutschland	71,8	72,9	C	Charter	7,3	42,9	E	92	77,6	C	6	65,7	C	20
10	Juneyao Airlines	China	70,9	61,6	C	Net Carrier	13,3	69,4	C	15	71,0	C	15			
11	Jet2.com	UK	70,8	73,8	C	Charter	6,7	68,4	C	21	70,8	C	16	73,8	C	4
12	Air Europa	Spanien	70,7	65,6	C	Net Carrier	10,7	70,4	C	13	74,1	C	10	68,3	C	12
13	Air New Zealand	Neuseeland	70,5	60,8	C	Net Carrier	15,2	75,4	C	5	75,1	C	8	66,5	C	17
14	Vietnam Airlines	Vietnam	70,4	64,3	C	Net Carrier	20,6	63,9	D	40	69,3	C	22	76,9	C	2
15	Beijing Capital Airlines	China	69,8	58,1	C	Net Carrier	13,1	68,7	C	18	70,0	C	18			
16	Siberia Airlines[2]	Russland	69,2	65,6	C	Net Carrier	9,5	66,2	C	33	69,7	C	20	67,4	C	14
17	KLM	Niederlande	68,9	68,1	C	Net Carrier	30,4	64,8	D	37	71,6	C	13	68,5	C	11
18	Virgin Australia International	Australien	68,5	67,0	C	Net Carrier	19,7	71,6	C	11	69,8	C	19	61,4	D	31
19	Air New Zealand Link	Neuseeland	68,3	64,4	C	Regional	3,0	68,5	C	19	62,9	D	52			
20	Air Caraibes	Guadeloupe	68,2	-	C	Net Carrier	1,4	74,0	C	7	70,3	C	17	67,6	C	13
21	Avianca	Kolumbien	67,9	61,7	C	Net Carrier	29,5	67,9	C	22	68,2	C	26	67,4	C	14
22	Alaska Airlines	USA	67,4	67,6	C	Net Carrier	24,4	20,9	F	119	67,3	C	31	70,2	C	7
22	Shandong Airlines	China	67,4	55,8	C	Net Carrier	18,6	68,5	C	19	67,3	C	31			
22	Sichuan Airlines	China	67,4	65,6	C	Net Carrier	23	64,5	D	38	68,5	C	25	48,6	E	65
22	Thai Airways International	Thailand	67,4	65,3	C	Net Carrier	18,2	70,8	C	12	69,6	C	21	65,8	C	19
26	Air Transat	Kanada	67,1	65,7	C	Charter	4,4	67,0	C	26	71,3	C	14	64,5	D	22
27	UTair Aviation	Russland	66,9	46,5	C	Net Carrier	6,7	70,1	C	14	66,3	C	37	68,6	C	10
28	Air India Express	India	66,8	-	C	Regional	3,2	38,9	E	103	67,1	C	35			
29	Hong Kong Airlines	Hong Kong	66,2	61,7	C	Net Carrier	6,5	74,3	C	6	66,2	C	38	61,7	D	29
30	Shenzhen Airlines	China	66,1	65,7	C	Net Carrier	27,6	66,7	C	27	66,1	C	40			
31	Xiamen Airlines Company	China	66,0	53,8	C	Net Carrier	24,5	66,6	C	28	65,8	C	43	66,8	C	16
32	Air Canada	Kanada	65,6	55,5	C	Net Carrier	44,8	57,7	D	55	63,2	D	49	69,0	C	8
32	Hainan Airlines	China	65,6	60,6	C	Net Carrier	27,4	69,2	C	16	66,2	C	38	61,8	D	27
34	Iberia	Spanien	65,0	59,8	C	Net Carrier	17,8	66,5	C	30	67,9	C	27	58,9	D	35
35	Ural Airlines	Russland	64,9	55,1	D	Net Carrier	6,5	62,3	D	43	66,0	C	42	58,6	D	36
36	Finnair	Finnland	64,4	57,4	D	Net Carrier	10,9	61,7	D	44	67,5	C	28	61,9	D	26
37	China Eastern Airlines	China	64,0	59,5	D	Net Carrier	80,9	66,5	C	30	68,7	C	24	44,6	E	74
38	Japan Airlines	Japan	63,9	53,1	D	Net Carrier	32,9	73,6	C	8	72,3	C	11	53,9	D	48
39	Air India	Indien	63,4	57,4	D	Net Carrier	10,8	59,7	D	51	65,3	C	45	61,8	D	27
40	El Al Israel Airlines	Israel	63,2	54,8	D	Net Carrier	5,5	66,1	C	34	67,3	C	31	56,1	D	41
41	Air China	China	63,1	58,0	D	Net Carrier	62,4	64,2	D	39	62,8	D	53	64,0	D	23
42	Batik Air	Indonesia	62,5	-	D	Net Carrier	7,6	61,2	D	45	62,8	D	53	62,2	D	25
43	Royal Air Maroc Express	Marokko	62,3	57,0	D	Regional	0,5	65,5	C	35	53,9	D	78			
44	Garuda Indonesia	Indonesien	61,9	58,8	D	Net Carrier	23,9	65,2	C	36	62,8	D	53	57,5	D	37
45	Cathay Pacific Airways	Hong Kong	61,8	63,2	D	Net Carrier	24,4	0,0	G	124	66,1	C	40	60,1	D	33
45	Delta Airlines	USA	61,8	59,7	D	Net Carrier	183,7	58,6	D	53	66,5	C	36	54,7	D	46
47	Corsair	France	61,6	60,7	D	Charter	1,2	35,5	F	107	56,9	D	73	61,6	D	30
48	TAP Portugal	Portugal	61,5	61,5	D	Net Carrier	11,7	45,9	E	84	65,2	C	46	56,9	D	38
49	Qantas Airways	Australien	61,4	58,2	D	Net Carrier	28,2	75,8	C	4	72,3	C	11	48,8	E	64
50	Aerolineas Argentinas	Argentina	60,4	58	D	Net Carrier	8,3	67,1	C	25	63,8	D	48	53,5	D	50
50	United Airlines	USA	60,4	59,7	D	Net Carrier	143,2	60,5	D	46	67,2	C	34	52,3	D	54
52	China Southern Airlines	China	60,3	59,3	D	Net Carrier	84,9	60,3	D	48	61,6	D	58	52,6	D	53
53	Tianjin Airlines	China	60,0	48,9	D	Regional	12,1	56,1	D	59	62,3	D	56	51,2	D	57
54	Icelandair	Island	59,9	60,4	D	Net Carrier	3,7	35,1	F	108	60,3	D	62	59,6	D	34
55	Shanghai Airlines	China	59,8	59,0	D	Net Carrier	14,3	60,0	D	50	59,9	D	64	56,9	D	38
56	Cathay Dragon	Hong Kong	59,6	-	D	Net Carrier	9,9	55,9	D	61	60,1	D	63	55,3	D	44
57	Hawaiian Airlines	USA	59,0	57,0	D	Net Carrier	11,1	51,6	D	71				60,3	D	32
58	American Airlines	USA	58,7	55,1	D	Net Carrier	198,7	51,9	D	70	64,1	D	47	47,2	E	68
58	MASwings	Malaysia	58,7	56,8	D	Regional	1,4	58,7	D	52						
58	Ukraine Int. Airlines	Ukraine	58,7	55,9	D	Net Carrier	6,0	41,0	E	100	61,2	D	59	56,3	D	40

Overall ranking								Distance-based ranking: <800 km			Distance-based ranking: 800-3800 km			Distance-based ranking: >3800 km		
Rank	Airline	Country	EP* '16	EP* '15	EK*	Type*	Pax (in Mio.)*	EP*	EK*	Rank	EP*	EK*	Rank	EP*	EK*	Rank
61	All Nippon Airways	Japan	58,4	48,1	D	Net Carrier	52,1	67,6	C	24	63,2	D	49	50,5	E	59
61	Malaysia Airlines	Malaysia	58,4	45,5	D	Net Carrier	13,9	52,2	D	68	61,8	D	57	54,2	D	47
63	Copa Airlines	Panama	58,2	54,8	D	Net Carrier	8,5	43,7	E	87	54,5	D	76	64,7	D	21
64	Aeromexico	Mexico	58,1	50,2	D	Net Carrier	11,2	56,1	D	59	56,2	D	74	63,1	D	24
65	Alitalia	Italien	57,2	57,8	D	Net Carrier	23,1	60,5	D	46	60,7	D	61	52,2	D	55
66	Lufthansa	Deutschland	56,9	55,2	D	Net Carrier	62,4	58,1	D	54	67,4	C	30	49,4	E	61
67	Singapore Airlines	Singapore	56,5	35,1	D	Net Carrier	19,0	41,8	E	97	61,1	D	60	55,5	D	43
68	Aeroflot Russian Airlines	Russland	56,4	55,7	D	Net Carrier	39,2	52,7	D	66	57,8	D	70	53,5	D	50
69	Turkish Airlines	Türkei	56,2	59,4	D	Net Carrier	62,8	63,9	D	40	58,6	D	67	49,2	E	63
70	Asiana Airlines	Südkorea	56,1	53,1	D	Net Carrier	19,3	66,3	C	32	58,3	D	68	50,2	E	60
71	Korean Air	Südkorea of	55,9	49,3	D	Net Carrier	26,9	66,6	C	28	63,1	D	51	50,6	E	58
72	Srilankan Airlines	Sri Lanka	55,6	56,0	D	Net Carrier	4,4	57,3	D	58	57,8	D	70	53,2	D	52
73	Air France	Frankreich	54,5	55,0	D	Net Carrier	49,8	67,7	C	23	67,5	C	28	46,4	E	70
74	British Airways	UK	54,4	51,7	D	Net Carrier	44,5	57,6	D	56	65,8	C	43	47,6	E	67
75	Iberia Regional	Spanien	54,3	51,3	D	Regional	2,2	55,9	D	61	50,4	E	87			
76	Royal Air Maroc	Marokko	54,0	45,3	D	Net Carrier	6,8	42,2	E	96	53,9	D	78	55,7	D	42
77	QantasLink	Australien	53,6	59,9	D	Regional	6,2	55,8	D	63	46,5	E	94			
78	SAS Scandinavian Airlines	Schweden	53,4	52,0	D	Net Carrier	29,4	50,2	E	74	59,3	D	65	44,7	E	72
79	EVA Airways	Taiwan	53,2	62,1	D	Net Carrier	11,2	52,0	D	69	58,7	D	66	49,4	E	61
79	SilkAir	Singapore	53,2	56,3	D	Regional	4,1	42,7	E	94	54,0	D	77			
81	Austrian Airlines	Österreich	51,6	51,6	D	Net Carrier	11,4	43,3	E	90	53,2	D	81	54,9	D	45
82	China Airlines	Taiwan	51,4	57,5	D	Net Carrier	14,7	49,7	E	76	53,7	D	80	48,4	E	66
83	Virgin Atlantic Airways	UK	51,3	40,9	D	Net Carrier	5,4	0,0	G	124				51,4	D	56
84	Brussels Airlines	Belgium	50,5	49,0	E	Net Carrier	7,7	48,8	E	80	53,2	D	81	46,6	E	69
85	South African Express	Südafrika	50,3	41,6	E	Regional	0,3	52,5	D	67	43,7	E	99			
86	Air Algerie	Algerien	50,2	-	E	Net Carrier	6,1	57,6	D	56	49,6	E	90	44,8	E	71
87	Pakistan Int. Airlines	Pakistan	50,1	52,5	E	Net Carrier	5,5	43,3	E	90	58,0	D	69	38,2	E	84
87	Philippine Airlines	Philippinen	50,1	50,1	E	Net Carrier	13,4	51,5	D	72	57,2	D	72	37,1	E	85
89	Swiss	Schweiz	49,7	46,8	E	Net Carrier	18,0	60,1	D	49	69,0	C	23	38,5	E	83
90	Alaska Horizon	USA	49,5	48,9	E	Regional	7,8	49,0	E	78	50,3	E	88			
91	Jazz Aviation	Kanada	49,1	45,6	E	Regional	10,5	51,3	D	73	47,3	E	91			
92	PAL Express	Philippinen	48,8	49,5	E	Regional	5,1	48,4	E	82	51,1	D	86			
93	ANA Wings	Japan	48,6	49,6	E	Regional	0,2	49,1	E	77	44,0	E	98			
94	Nordic Regional Airlines	Finland	48,3	44,3	E	Regional	2,8	63,9	D	40	36,6	E	110			
95	Gulf Air	Bahrain	47,3	44,2	E	Net Carrier	5,2	35,1	F	108	52,7	D	83	41,6	E	77
96	Etihad Airways	VAE	47,2	49,8	E	Net Carrier	18,5	49,8	E	75	55,8	D	75	44,1	E	75
97	LOT - Polish Airlines	Polen	47,0	44,2	E	Net Carrier	5,5	43,6	E	88	38,2	E	106	70,6	C	6
98	Flybe	UK	46,8	48,5	E	Regional	8,4	48,6	E	81	41,3	E	101			
99	Lufthansa Regional	Deutschland	46,7	46,8	E	Regional	5,1	43,9	E	86	50,0	E	89			
100	Qatar Airways	Qatar	46,4	46,1	E	Net Carrier	32	44,0	E	85	51,7	D	85	44,7	E	72
101	Egyptair	Ägypten	44,7	41,1	E	Net Carrier	8,2	49,0	E	78	45,9	E	96	40,1	E	80
102	BA CityFlyer	UK	43,6	39,7	E	Regional	2,2	42,3	E	95	44,7	E	97			
103	Oman Air	Oman	43,4	40,5	E	Net Carrier	7,7	38,4	E	104	46,3	E	95	40,5	E	79
104	HOP!	France	42,9	-	E	Regional	6,0	46,7	E	83	38,0	E	107			
104	Kuwait Airways	Kuwait	42,9	42,2	E	Net Carrier	2,9	43,5	E	89	46,7	E	92	38,7	E	82
106	Ohana by Hawaiian	USA	42,8	38,8	E	Regional	0,4	42,8	E	93						
107	J-Air	Japan	41,1	41,3	E	Regional	3,5	41,3	E	98	40,5	E	104			
108	Emirates	VAE	40,7	39,6	E	Net Carrier	56,1	36,4	E	106	46,7	E	92	39,5	E	81
109	Swiss Global Air Lines	Schweiz	40,3	46,8	E	Regional	1,1	39,4	E	102	40,9	E	102			
110	Saudi Arabian Airlines	Saudi-Arabien	40,2	40,3	E	Net Carrier	28,2	41,2	E	99	42,1	E	100	36,9	E	86
111	South African Airways	Südafrika	39,5	41,4	E	Net Carrier	6,6	53,9	D	65	51,9	D	84	29,1	F	88
112	Aeromexico Connect	Mexico	38,6	30,6	E	Regional	8,5	34,1	F	110	40,9	E	102			
113	Austral Lineas Aereas	Argentinien	37,7	33,2	E	Regional	3,2	37,3	E	105	37,8	E	108			
114	Royal Jordanian	Jordanien	37,4	34,7	E	Net Carrier	3,0	20,2	F	120	31,5	F	114	53,9	D	48
115	Ethiopian Airlines	Äthiopien	36,5	26,5	E	Net Carrier	8,2	23,8	F	117	32,4	F	112	40,8	E	78
116	Virgin Australia Regional	Australien	36,0	40,4	E	Regional	4,6	33,7	F	111	36,2	E	111			
117	Air Astana	Kasachstan	34,8	36,0	F	Net Carrier	3,7	26,9	F	115	37,5	E	109	28,3	F	89
118	Mahan Air	Iran	33,9	39,0	F	Net Carrier	5,9	27,4	F	114	40,4	E	105	29,8	F	87
119	United Express	USA	31,1	32,0	F	Regional	22,0	29,2	F	112	31,9	F	113			
120	TAP Express	Portugal	30,6	37,0	F	Regional	1,3	17,5	G	121	31,5	F	114			
121	Delta Connection	USA	28,5	29,5	F	Regional	39,0	21,6	F	118	31,3	F	116			
122	Envoy	USA	28,2	32,8	F	Regional	11,8	25,0	F	116	30,3	F	117			
123	Kenya Airways	Kenia	27,6	19,5	F	Net Carrier	4,5	10,9	G	122	18,4	G	118	43,3	E	76
124	Egyptair Express	Ägypten	25,4	22,0	F	Regional	1,2	28,3	F	113	17	G	119			
125	South African Airlink	Südafrika	2,3	2,6	G	Regional	0,50,5	3,7	G	123	1,6	G	120			

Source: Atmosfair airline index 2018

Appendix 4. CEO letters of subject groups

In 2018, our team celebrated five years since the merger of American Airlines and US Airways. With most of the integration work now behind us and $25 billion invested in our team and product, our efforts are poised to pay off. We made great strides in delivering a world-class customer experience, improving our revenue performance and taking care of our team members. At the same time, 2018 presented challenges to our business as we faced rising fuel prices, difficult weather events, uncertain economic conditions in some parts of the world and the early stages of a government shutdown at the end of the year. We did not meet all our targets for operational performance, which we know had an impact on customer satisfaction. But we are a team that collaborates, adapts and continues to move forward. We identified challenges and implemented action plans to adjust and correct. By the end of 2018, the hard work and dedication of our team members helped produce pre-tax profit of $1.9 billion, or $2.8 billion excluding net special charges.1 Looking ahead, we will continue to focus on our bedrock principle that when we take care of our team members, they will take the best possible care of our customers, which, in turn, takes care of our great company. We are guided by our three long-term strategic objectives: • Make Culture a Competitive Advantage: Our team members are our most important asset. We've added more than 15,000 people to our team since the merger, and we're focused on supporting their professional growth by building a culture of learning and development. In 2018, we partnered with Harvard Business School Publishing to launch Harvard ManageMentor, which offers on-demand online courses with skill-building exercises and business development guidance for more than 40 topics. Our company's focus on inclusion and diversity has never been more deliberate. In 2018, we responded to feedback in this area by engaging an industry expert to look more closely at inclusion and diversity at American to highlight where we can better meet the needs of our team members, customers and the communities we serve. Some 75,000 team members completed computerbased implicit bias training in 2018, and all 130,000 will complete the training in 2019.

We will roll out in-person implicit bias training for all team members beginning this year as well.

• Create a World-Class Customer Experience: Since the merger, creating a consistent and exceptional experience for customers across our network has been a top priority. We have invested billions in new products and services and have more than 500 customer-facing projects underway, with most of them taking place at our airports. We've also added more than 200 new routes and 41 new stations to our network over the past five years and combined more than 650 systems to help our team members serve customers better. On board our aircraft, customers now enjoy greater connectivity to high-speed Wi-Fi and enhanced entertainment, while visitors to our lounges in many airports are enjoying recent upgrades. All of this adds up to a more modern, comfortable and connected experience for our customers.

• Build American Airlines to Thrive Forever: With the merger of American and US Airways, we created the largest airline in the world, and we're committed to ensuring that our airline will continue to thrive, now and into the future. Achieving our financial objectives and investing heavily in airport infrastructure — such as our $1.6 billion project at Los Angeles International Airport (LAX) — will help us better serve our customers and team members while positioning our company for success for many more years to come. Thriving in the future also means being mindful of our environmental impacts as an airline and doing our part toward responsible energy use and fuel conservation. Currently, 100 percent of electricity purchased at our Dallas-Fort Worth-area facilities is from renewable sources. We've taken delivery of more than 500 aircraft since the merger, giving American the youngest fleet of any U.S. network carrier. And we continue to introduce new, more fuel-efficient aircraft into our fleet while retiring the same number of older planes. Together, these three strategic objectives represent the important responsibility we have to protect the pride each of us has in American and to ensure that it lives on for those who will take care of this great airline long after we are gone. With that in mind, we have organized our 2018 Corporate Responsibility Report around these themes to highlight our achievements and to acknowledge the work that remains. We've made tremendous progress to date, and we look forward to continuing the journey with you as we reach many more exciting milestones in the years ahead. Sincerely,

American Airlines

We have worked hard to strengthen our position as a leading global airline and we are encouraged by the positive results we have achieved for our customers and our colleagues this year. With ambition and innovation at the heart of our transformation, we took a critical look at our organisation and business strategy, prioritising those areas where we can have greatest impact. A similar mindset was also applied to our sustainability efforts. This sharpened focus produced a revamped sustainable development strategy which prioritises our most material environmental and social impacts in tandem with the areas where our customers and stakeholders expect Cathay Pacific to take a lead. We revitalized our community engagement strategy, focusing on creating enhanced impact around four key pillars: children and youth development; global cultural exchange; environmental awareness, and diversity and inclusion. In 2018, we have made headways in many areas and in particular: TAKING ACTIONS AGAINST CLIMATE CHANGE Our continued investments in renewing our fleet, adoption of alternative fuels and other operational measures yielded a 2% improvement in fuel efficiency* in 2018, placing us ahead of industry emissions intensity reduction requirements. We continue our preparations towards achieving industry's goal of carbon neutral growth from 2020 onwards. COMBATING SINGLE-USE PLASTICS We firmly believe that reducing plastic waste while serving our 35.4 million passengers and 26,600 colleagues will make a tremendous difference. In 2018, all single-use plastic straws, stirrers, and cutlery were removed from our headquarters. Over 18 million pieces of plastic straws and stirrers from our flights and global lounges will also be removed in 2019 as our first steps to tackle plastic pollution. FOSTERING A DIVERSE AND INCLUSIVE CULTURE Diversity and inclusion are fundamental to our culture and core values. Cathay Pacific people are a diverse group of dedicated employees and in fact our customers too. Therefore, it is our goal to continue to make the Cathay Pacific Group a place where everybody can be themselves at work so that they can give their best to our customers. In 2018, we formalised our commitment by establishing a Diversity and Inclusion Policy and launched two platforms to encourage greater awareness, understanding and dialogue: the Cathay Women's Network and Fly With Pride, our network for LGBT+ (Lesbian, Gay, Bi-sexual, Transgender, plus) employees. Our strengthened sustainable development programme is delivering progress at the same time as our improved financial performance. These results have required considerable effort and have laid the right foundation for sustainable development. But we know that standing still is not an option, we are committed to go beyond our achievements and make Cathay Pacific a continued success.

Cathay Pacific Airways

"YEAR 2019 ENDED WITH A STRONG QUARTER AS THE MARKET SITUATION IMPROVED." "OUR AIM IS TO BE A MODERN PREMIUM AIRLINE." When I look back at 2019, which was my first year at Finnair, what stands out the most are our fantastic and highly committed personnel, and Finnair's rapid growth. We set a new record of 14.7 million passengers and we opened new and interesting routes. The foundation for our success and good customer experience lies in our highly competent personnel, and we had a strong focus on the development of their wellbeing and skills. The Finnair team also grew during the year, as we hired approximately 1,000 new employees. An excellent employee experience is directly reflected in our customer satisfaction, which developed favourably last year. Our goal is to maintain this trend in the years to come. Due to the uncertain environment, 2019 was a volatile year for us, but it ended with a strong quarter as the market situation improved. Capacity growth of 11.3 per cent in passenger traffic and an increase of 10.3 per cent in passenger volume led to 9.2 per cent growth in revenue. Our revenue for the year amounted to 3.1 billion euros, compared to 2.8 billion euros in 2018. Our comparable operating result for the full year was 162.8 million euros. The new A350 aircraft introduced in early 2019 increased our capacity, and we added flights to our Asian traffic, especially to strategically important destinations such as Osaka and Hong Kong. The new routes that opened in the Asian network included Beijing Daxing and Sapporo, which was introduced late in the year. In addition, we opened a new route to Los Angeles and several new routes to Europe. We also made decisions on new long-haul routes to be introduced in 2020: in the summer, we will start flying to Busan, the second-largest city in South Korea, and in the spring, we will introduce a route to Tokyo Haneda, which offers a faster connection to central Tokyo compared to Narita Airport. Towards the end of the year, Helsinki-Vantaa airport became the biggest Nordic hub for intercontinental flights as a result of determined work within the last few years. This is notable especially when taking into consideration the ongoing airport extension project. Excellent collaboration between Finnair and Finavia has enabled this growth.

In November 2019, we announced our updated strategy for 2020–2025, and we have now moved into a new phase of sustainable, profitable growth. With our new strategy, the aim is growth in line with Asian markets. A central objective for sustainable profitable growth is to grow cost-effectively, allowing us to maintain our healthy balance sheet and cash flow, while carrying out significant investments of approximately 3.5–4.0 billion euros to substantially reduce our emissions and enable profitable growth. Above all, these investments are aimed at the renewal of our narrow-body fleet to make it more fuel-efficient, economic and environmentally friendly.

Our aim is to be a modern premium airline, and our new strategy also includes investments in a Premium Economy travel class. Combined with our growing service selection and the different pricing tiers of our travel classes, the introduction of Premium Economy will allow our customers to customise their journeys in more diverse ways than before. At Finnair, we invest heavily in developing digital services which enable a smooth travel experience and allow customers to tailor the way they want to travel.

Investing in the customer experience has played a central role in our operations and will continue to do so. Finnair's Net Promoter Score of 38 compares well with the peer group of airlines. In the annual Skytrax survey, customers chose Finnair as the best airline in the Nordic region for the tenth consecutive time.

Our home market of Finland – and especially Lapland - has also emerged as an attractive travel destination thanks to the determined cooperative efforts of various parties, and we believe that Finland as well as the Nordics will also attract passengers in the future. This is important for the local economy: tourism has become a prominent employer in the Nordic region and air travel an enabler of new businesses.

Last year was strongly characterised by increased consciousness and public discussion concerning climate change, which also appeared as a major item on the political agenda. At Finnair, I can say that sustainability and endeavouring to reduce emissions are at the heart of our strategy. We have committed ourselves to long-term carbon neutrality. WE ARE CONTINUOUSLY LOOKING FOR NEW WAYS TO REDUCE EMISSIONS.As aviation undoubtedly has a positive economic impact, we need solutions to significantly decrease emissions despite increased flying in the future. As an optimist, I am confident that the need for change will create the required solutions: new technologies and new practices.

Finnair

I would like to express our sincere gratitude to our valued customers, domestic and overseas shareholders, and our various business partners from around the world for their continuous support of the JAL Group. The JAL Group is in the midst of our 2017-2020 Medium Term Management Plan, the theme of which is "Challenges, Leading to Growth," and which will build towards the realization of the JAL Vision that would see JAL (1) Transform into a Truly Global Airline x (2) Create New Values One Step Ahead of Competitors = and thus, (3) Achieve Sustainable Growth. During fiscal year 2018, the second year of this plan, JAL saw through an array of initiatives to bring JAL onto the world's stage, such as being recognized by SKYTRAX as a 5-Star Airline, establishing ZIPAIR Tokyo, a mid-long haul LCC for international flights, the opening of Narita=Seattle and Haneda=Manila routes, and establishing new and expanding existing partnerships with carriers abroad. Furthermore, we saw steps being taken to continue to grow strongly and "create New Values that are One Step Ahead of Competitors," such as the establishment of JAL Innovation Lab, where open innovation is encouraged and nurtured, and the establishment of the Japan Airlines Innovation Fund, a corporate venture capital fund that will invest in start-up companies. Fiscal year 2019, the third year of the Medium-Term Management Plan, will be a year to reflect on the progress so far, and also accelerate those plans by enacting the 2019 Medium-Term Management Rolling Plan. In this plan, after reflecting upon having received the Business Improvement Order in December 2018 for alcohol-related incidents, we will immediately take up the Reconstruction of Safety and Security standards before anything else. Additionally, JAL will work tirelessly to restore trust and improve corporate value through the improving our own services and contributions to society that will meet the needs and expectations of not only our customers, but also those of everyone throughout society. We look forward to your patronage of the JAL Group, and we humbly ask for your continued support going forward.

Japan Airlines

We are moved by the mission of connecting people and destinations. In the framework of the celebration of our 90 years of history, we succeeded in setting that mission in motion transporting over 74 million passengers who chose LATAM to fly. A record figure for the Company. We are pleased to have the certainty of offering a level of service that improves day by day and that adapts to the various needs of our passengers. The levels of punctuality that we achieved in 2019 were acknowledged in the main rankings worldwide, and reflect our commitment to the quality of service. With a level of punctuality of 88%, LATAM was chosen as the most punctual airline in the world among the 20 main airline groups, according to OAG (Official Airline Guide), and the most punctual worldwide in the Global Airlines-Network category, according to Cirium.

During 2019, our passengers witnessed the cabin transformation project, which has already been applied to 67 aircrafts and will continue in 2020, with a total investment of US$400 million. To offer appealing alternatives to our passengers, and based on their different profiles and needs, we have launched a new fare—Basic economy—ideal for short trips or those traveling without baggage. Moreover, we recently launched a superior cabin class—Premium economy—which offers exclusive services both at the airport and on board, and available on all our domestic and international flights operated with A320 family airplanes.

Another relevant milestone was the unification of our loyalty programs under the single brand LATAM Pass, which is not the fourth largest frequent flyer program in the world with over 30 million passengers. In 2019 alone, our clients exchanged 7 million airplane tickets.

In an increasingly more digital world, we continue to invest in technology to improve our passengers' experience and guarantee them greater autonomy. In 2019, we reported a 30% increase in the use of our kiosks for checking in and printing boarding passes and bag tags. We are working to guarantee that the whole pre-boarding process can be 100% automated. We have already implemented a self bag drop system at some of the airports where we operate: São Paulo, Brasilia, and Rio de Janeiro in Brazil, London (England), Bogota (Colombia), and Quito (Ecuador).

Committed to connectivity, we launched 26 new routes in 2019, 12 of which are international. Moreover, we signed a strategic alliance with Delta Air Lines, which will help us to offer our passengers more flight options and shorter connection times through a Joint Business Agreement (JBA). However,

our agreement with Delta is more than just a JBA. We will seek synergies to strengthen our processes and operations, and we will have greater financial flexibility following the sale and allocation of the purchase commitments for 14 A350 airplanes. Moreover, Delta acquired 20% of the LATAM shares, which strengthens the commitment to the success of this alliance. LATAM now has two large airlines as its partners: Delta Air Line and Qatar Airways.

These alliances with world-class airlines, such as Delta and Qatar, are a reflection of what we have built in the region in the last few years. We are a simpler, more efficient, and competitive organization, ready to face the shifts of a dynamic market that is highly sensitive to the environment. The results of 2019 show resilience.

In my balance of the last year, I cannot forget to mention the social crises that some of the countries in the region are facing. Beyond looking at the challenges that they create for the business, we are constantly empathizing and understanding what is happening in our region.

From the economic point of view, we experienced a slowdown in the international aviation market in Latin America, influenced by a tough economic and social environment in the region. Nonetheless, LATAM ended the year with US$742 million in operating income and an operating margin of 7.1%, in line with Company expectations. Net profit reached US$190 million and our cash flow after investments settled at US$1.1 billion, which enabled us

to maintain a healthy liquidity level and stable debt of around 4.0x.

We know that the Group's sustainability is not dependent solely on our financial soundness. In working on LATAM's permanence in time, we also seek to contribute to the economic development of the regions where we operate, social progress, a reduction of the environmental effects of our activities, and preservation of the environment. Thus, we aim for our flight plan to be concrete contribution to make a more balanced and fairer world for all. The resilience that marks us and the privilege of performing in an extraordinary region strengthens us in face of the future. For the sixth consecutive time, we were acknowledged as one of the three most sustainable airlines in the world, according to the Dow Jones Sustainability Index (DJSI), and the only one in America to be included in the index. For the first time, we were also included in the FTSE4Good index series of the London (England) stock exchange's Financial Times Stock Exchange (FTSE).

Another relevant milestone in 2019 was the new assessment we made of the Sustainable Development Goals (SDG) to identify our contribution to the achievement of that global agenda. The analysis revalidated LATAM's most effective connection to seven of the 17 goals, and specifically, SDG 13, which regards the actions against climate change.

Reducing the Greenhouse Gas Emissions (GHG) of the operation is the main goal of our strategy, and we are aligned to the most ambitious targets of the Paris Accord, with actions that aim to limit to 1.5℃ the rise in global temperature by the end of the century. We maintain a program devoted to the identification and implementation of fuel-use efficiency actions since 2010 and, as a result of the initiatives in the program, we avoided the consumption of 60.6 million gallons of fuel in 2019, thus preventing the emission of 578 thousand tons of GHG and reducing costs by around US$145 million.

As for responsible production and consumption, another goal of the UN agenda, we pioneered an in-flight recycling program, activated as a pilot pro

gram on domestic flights in Chile in 2019, and to be extended to our other operations in 2020. We wish to involve our clients in the matter, generating awareness that the preservation of the environment must be a shared task for all.

In the social axis, we celebrated 10 years of the "Care for My Destination" program, which develops sustainable tourism in various places around South America, an example of our commitment to the comprehensive development of the regions where we are present, through preservation and social development programs. With Solidary Plane Health and Solidary Plane Catastrophe, we place our connectivity and structure at the disposal of the demands of the communities in the region. Serving the healthcare needs, we become an air bridge connecting multidisciplinary teams and patients. In natural disaster situations, we assist the affected locations with humanitarian aid and team transportation.

In April 2020, I shall step down from the helm of LATAM after 25 years. I am proud of the long way we have come and I trust in what the future holds in store for us. I thank our shareholders for their trust during this time; clients, for choosing to fly with LATAM; and especially, our team of employees, for the great honor of leading them all these years. Roberto Alvo, who has been with us for 18 years, shall take over as LATAM Group's CEO. Roberto's leadership and knowledge of the industry will help us fly even further. I wish him the greatest success.

The beginning of 2020 has been marked by the consequences of the COVID-19, which fully challenges society, governments, and industries. The pandemic is taking lives around the world, overloading the healthcare systems and affecting the economy. This outlook has led airlines to the most critical moment in their history. The scope and unpredictability of this crisis make it difficult to anticipate results, but we are acting quickly to ensure the Group's long-term sustainability. This is the greatest crisis in history for the tourism and civil aviation sectors. Overcoming it, as an economic segment and as society, depends on adjustments beyond what any company can do individually or even what the sector can do jointly, and it requires a union of public-private support.

Our trust in our work teams, the resilience that is our trademark, and the privilege of performing in an extraordinary region strengthen us to face the most challenging moment in the history of our company. Let us carry on to go "Together, further".

LATAM

" The aviation industry knows it needs to adapt to a carbon constrained future. Acting responsibly on emissions will be key to our long-term success." Qantas continued to be one of the best performing airline groups in FY19.

This performance is largely due to a long-term strategy of investment and innovation.

The restructure of our international network over the past few years is a good example. Perth-London direct has given us a unique advantage in a very competitive market. The shift of our hub back to Singapore gives us a stronger foothold in Asia – and its success can be seen in the need to expand our lounges there.

We're able to drive a lot of value through our cornerstone partnerships with Emirates, China Eastern and now American Airlines.

We've accelerated the retirement of our 747s — an aircraft type that has served us very well in various forms for 50 years — and invested in more 787-9s, and we're giving a mid-life upgrade to our fleet of Airbus A380s.

We're investing in new fleet at Jetstar as well. The latest variants of the Airbus A321 that start arriving from mid-2020 will allow us to open up new destinations with route economics that help keep downward pressure on fares.

Domestically, we've seen our investments in network, customer service training and inflight Wi-Fi strengthen our position in the corporate and premium leisure markets. Our Qantas Business Rewards loyalty program has also helped us grow our share of the small business travel market.

We are investing $25 million to strengthen the Frequent Flyer program — including adding 1 million reward flights per year across Qantas, Jetstar and our partners. A further $10 million has been invested in providing discounted fares for people living in remote regional cities on top of a $5 million regional grants program we announced during FY19. And our Pilot Academy will open in the Queensland regional centre of Toowoomba during FY20, with an explicit goal of encouraging more women to pursue a career in aviation.

Safety remains core to the Qantas Group's success. Operational safety levels were high in FY19 but we fell short of our workplace safety targets — something that we are working hard to address in FY20.

The aviation industry knows it needs to adapt to a carbon constrained future.

Qantas has signed up to industry-wide targets that will halve net emissions by 2050 based on 2005 levels. Since 2009, we've been working to improve fuel efficiency by an average of 1.5 per cent a year. We're also investing in biofuel research and we operate the world's largest airline carbon offset scheme. Acting responsibly on emissions will be key to our long-term success.

For almost a century, Qantas has succeeded by pushing the boundaries of aviation. We hope to do this again with Project Sunrise — which is assessing the commercial and technical feasibility of direct flights from the East Coast of Australia to New York and London.

As we head towards our 100th year, we're confident in our performance, excited by our future and grateful for the ongoing support of our people and customers.

Qantas

"If fuel cost and finance cost were excluded, the unit cost was in fact 2.9% lower than previous year reflecting the effectiveness of our cost reduction initiatives." industry Outlook The global aviation industry continued as a catalyst for world economic growth in 2018. Over 22,000 routes were operated across the world carrying 4.3 Bn passengers and transporting 64 Mn tonnes of cargo worth USD 6.7 Tn. The estimated global economic impact of the aviation industry was USD 2.7 Tn and generated over 65 Mn direct and indirect jobs. The real inflation adjusted cost of air transportation, which got halved in the past 20 years, declined further in 2018 and made air travel further accessible for potential customers, connecting families and businesses across the world. Global passenger load factor reached a record level of 81.9% in the past year as growth in demand for air transportation exceeded the growth in capacity. Growth in air freight was modest in 2018 due to the geo-political tensions in world trade. The Global airline industry's robust financial performance continued with a net post-tax profit of USD 30 Bn on an operating margin of 5.8%. However, both profitability and the operating margin dropped from the previous year due to intensified challenges in the operating environment.

IATA predicts 2019 as a year of low industry profitability largely due to volatility of fuel price, rising labour cost and taxation. Global Airline net profits are expected to decline to USD 28 Bn, the lowest after 2014. Global trade is marred by growing tension between US and China, which would have a significant negative impact on air traffic. US led trade sanctions on Iran directly impact the global oil supply and prices. World air traffic growth in 2019 is to be led by the emerging markets in Asia Pacific despite the margins coming under pressure due to excess capacity.

Airline Performance The year under review was yet another challenging year for the Airline with an increasingly turbulent operating environment characterised by high cost of aviation fuel, unprecedented depreciation of key currencies, political instability, intense competition and excess capacity in key market segments that we operate to. Market yields continued to be under constant pressure due to inclement market forces, which further affected our ability to control market fares voluntarily.

Despite such challenges, effective management of aircraft deployment and allocation of flight frequencies on market dynamics allowed us to optimise revenues to achieve the annual targets and record a year on year growth in the core operating revenue. Fuel surcharges were introduced with tactical precision to curb the impact of rising fuel prices to a certain extent. Regardless of positive revenue performance, the adverse impact on passenger revenue resulting from the deprecation of key revenue generating currencies amounted to USD 22 Mn (LKR. 3.8 Bn) in the year under review.

The Airline's market capacity in the year 2018/19 grew over the previous year by 2.4% while overall passenger cabin factor exceeded marginally by 0.25%. At USC 5.55, the passenger yield / RPK fell short of expectations despite achieving a 2% growth over last year. The unit cost (CASK) increased by 2.7% over the previous year largely due to the increase in average fuel price which rose 19% above previous year. If fuel cost and finance cost were excluded, the unit cost was in fact 2.9% lower than the previous year reflecting the effectiveness of our cost reduction initiatives.

Airport and Ground handling, the most profitable strategic business unit of SriLankan Airlines, reported a net revenue of LKR. 9,577 Mn. (USD 56.7 Mn).

Our online direct sales channel www.srilankan.com achieved a significant milestone by recording an overall penetration of over 13.5% (12.3% previous year) of the total network passenger revenue. This reflected our consistent investment and commitment in optimising non-traditional direct sales channels to drive the revenue up at a lower incremental cost. We strive to double the online direct sales contribution in two years.

Total Group revenue for the year exceeded LKR. 184 Bn with a year on year growth of nearly 12%.

SriLankan's improvement in topline performance was drastically overshadowed by the increase in operating costs in some key areas. The escalating global fuel prices drove the fuel cost up by an additional LKR. 9,794 Bn (USD 58.4 Mn) due to price variance over the previous financial year. The unprecedented exposure to currency depreciation in 2018 resulted in an exchange loss of LKR. 10.7 Bn for the year under review. The adversity of our operating environment was further aggravated by fleet related challenges such as the high maintenance cost due to mismatch in fleet and multiple engine types on narrow body aircraft. Heavy maintenance costs incurred on regular maintenance of aging A330200 fleet increased the overall cost by LKR. 1,509 Mn (USD 9 Mn) against the previous year. Aircraft lease related expenses were USD 7.6 Mn higher against the previous year due to hiring of spare engines and the addition of A321neo to the fleet. Significant savings amounting to USD 26 Mn were achieved in expenses relating to Commercial, Station and Traffic and Marketing as a result of the stringent cost control measures introduced during the year.

The total Group loss for the financial year 2018/19 was LKR. 41,700 Mn. Though this is a significant deterioration from the previous financial year, a close examination of the underlying reasons reveals the unprecedented impact of uncontrollable and non-operational external factors that exerted immense pressure on the bottom line. In fact as much as 66% of the Group loss of the year under review is comprised of the collective impact of exchange losses, year on year global fuel price increase and Withholding Tax liability. Further, some of the anomalies created in the past such as high lease rates for aircraft, continuing cost arising from the cancellation of A350 aircraft leases, high jet fuel price of CPC and high interest rates of state banks, included in the above account for 85% of the loss for the year. This clearly reflects the potential to turnaround the Airline based on a professionally formulated and executed business plan that has the support of all key stakeholders.

Restructuring of the Airline and turning it around to become a financially viable entity is the highest priority of the shareholder and the Management. The Management developed a restructuring plan internally, following a detailed analysis of the Company's status quo, environmental variables and shareholder objectives. This plan identified a number of critical initiatives related to revenue enhancement and cost reduction that are expected to make significant positive contribution to the bottom line progressively. The immediate, medium and long term support required by the Government

of Sri Lanka was highlighted as prerequisites for the successful implementation of core restructuring strategies. Our restructuring proposals were presented to the Committee appointed by His Excellency the President to make recommendations on restructuring of the Airline in January 2019.

By incorporating the key aspects of the restructuring plan, the Management team developed a comprehensive five year Business Plan that spells out the future strategic direction of the Airline. A new Vision, Mission, Values, Goals and core objectives for the Airline were also developed to steer the Airline towards the desired position. The Board of Directors endorsed the business plan and authorised the Management to go ahead with the implementation of the business plan.

The unfortunate attacks on Easter Sunday imposed a significant impact on our performance forecasts and challenged the execution of some of the short and medium term strategies of the business plan. We experienced a substantial reduction in passenger bookings and cancellations from some of the key markets such as China, UK, Japan, India and Australia immediately after the incident. A series of flight cancellations and aircraft downgrades were accommodated in the schedule for the four months following the attack due to the reduction in passenger demand. As a measure of recovery, we scheduled to deploy the excess capacity on prospective "6th Freedom" markets to stimulate transfer traffic via Colombo. Tourism industry had forecast a 30% reduction in tourist arrivals with a revenue loss of USD 1.5 Bn as a result of this incident and SriLankan which carries 30% of the inbound tourists would be affected directly. As per the 2019 financial statements, we have already seen a 6% reduction in overall passenger revenue in the first quarter and also experienced reductions in cargo, ground handling and income from SriLankan Catering as a result of the Easter Sunday attacks.

My sincere gratitude goes to all our colleagues who worked tirelessly following the unfortunate incidents on Easter Sunday to handle the unprecedented passenger influx at the airport with utmost professionalism to ensure smooth operations with minimal disruptions.

Subsequent to the Easter Sunday incidents, the Management critically reviewed the strategic business plan and made certain realistic revisions in light of the prevailing and expected conditions. Timelines of re-introducing some of the European destinations and proposed new routes were deferred within the planning horizon to ensure the improvement of market stimulus and passenger confidence. The new destinations proposed under the business plan include Sydney, Saigon, Chengdu, Katmandu, Paris, Frankfurt, Nairobi, Calicut and Ahmedabad. These destinations were selected on their commercial merit after an in-depth analysis of long term market potential and value addition to our network. The revised business plan was presented to the shareholder for the policy direction and recommendations. Timely approval of the business plan and its core proposals by the Government is an absolutely critical prerequisite for its successful implementation.

Despite all trials and tribulations that we endured, the past year was never short of achievements. Becoming the world's most punctual airline for the second time in less than twelve months is truly a remarkable speaks volumes for our unblemished record of safety and operational excellence stemming from effective people, processes and policies. I have no doubt that we will continue to excel as a punctual carrier and deliver greater customer satisfaction.

We were successful in our efforts in finding a solution for the incompatible aircraft in our fleet, A330-200 - MSN 1008. This aircraft, which we inherited as a part of the settlement for A350900 lease termination, has a seat configuration that is highly undesirable for our product and business model. We negotiated with the lessor to finance USD 4.5 Mn against the costs of upgrading the cabin of the aircraft to bring it on par with the rest of the wide-body fleet. The lessor also agreed to contribute USD 1.2 Mn for the aircraft overhaul. In addition, the dispute with HiFly Aviation for the outstanding dues for the sub-lease of this aircraft amounting to USD 2.1 Mn was collected from the lessee after reaching an out of court settlement. The contribution and commitment of our Engineering and Legal teams in this process is highly commendable.

We proceeded with the short term wet lease of A330-300 4R-ALM aircraft to Oman Air to optimise our fleet utilisation after careful analysis of the financial and operational benefits to SriLankan Airlines.

The Engineering unit regained the European Aviation Safety Agency (EASA) Type 145 certification after successfully completing the standards of compliance. This will boost the third party base maintenance business and training capacity of SriLankan Engineering. SriLankan Engineering currently provides line maintenance services to over 15 customer airlines from Colombo BIA and has a customer base of five at Male airport. New customers for line maintenance include Air China, Air India and Chongqing Airlines.

Negotiating above the market lease rentals relating to some of the A330-300 aircraft is a key to reduce the overall cost of the operations. Management has been continuously pursuing this option in the past and I am disappointed that we have not been getting any positive response from some of our key lease financiers. At the same time, some of the lease renewals have been effected at the market rates which would bring savings to our operating cost structure in the near future. We are also looking at the option of the early termination of some leases for A330-200 aircraft to bring the overall cost down and make the operations more efficient.

Revenue enhancement through effective capacity deployment, revenue management and expenditure reduction strategies will continue to be the focus of the Management to direct the Airline towards sustainable financial viability in accordance with the business plan. The Management is aggressively pursuing a company wide cost saving and an increase in ancillary revenue initiatives targeting USD 30 Mn in the next financial year to reduce losses. We urge the support and contribution of all employees to make this effort a success.

The Government of Sri Lanka continues to search for a suitable investor and a strategic business partner which would enable the Airline to reduce the finance cost significantly which amounted to USD 64 Mn during the last financial year and also to provide the right governance structure to enable the Airline to manage its affairs as any other commercial entity.

Timely implementation of certain policy changes included in the restructuring plan, such as changes to the Withholding Tax Legislation and adjustment of interest from the two state banks to be compatible with the market rates, are essential to reduce the losses of the Airline. I am pleased to mention that our request to reduce the margin charged by the Ceylon Petroliam Corporate, has been implemented effective April 2019.

SriLankan Airlines celebrates its 40th anniversary this year. This is indeed an important milestone in the history of aviation in Sri Lanka. From our humble beginning in 1979 with two aircraft as Air Lanka, we have come a long way to become an internationally reputed mid-sized network carrier with huge potential for growth. I'm sure the foresight, commitment and skills of our team would see the Airline becoming a greater and sustainable business entity in future.

I sincerely thank the Chairman, Board of Directors, Management team, employees, business partners and shareholders for their continued support and patronage and I'm confident that we will continue to be resilient and relentless in our efforts to reach the vision of becoming Asia's most customer-centric airline.

SriLankan Airlines

DEAR SHAREHOLDERS! In 2018, Aeroflot celebrated its 95th anniversary. We did so as a leading global airline – shortly before the anniversary, Aeroflot was named among the world's 20 largest airline groups by passenger traffic by two authoritative global aviation publications, Air Transport World and Flight Airline Business.

In 2018, we strengthened our position as one of the leading airlines on the international market. Aeroflot was once again named the world's strongest airline brand by Brand Finance. And we also confirmed our prestigious Skytrax 4-Star Airline Rating and Five Star Global Airline status in APEX's Official Airline Ratings.

During the year we implemented a number of initiatives to enhance customer service. They include the introduction of a streaming entertainment system on 26 Airbus A320 family aircraft, updates to our mobile app and improvement of our onboard catering. We started operating domestic flights from the new terminal B at our Sheremetyevo hub. Widebody Boeing 777-300 aircraft were upgraded to improve service quality and cost efficiency.

Our efforts have been recognised by both passengers and industry experts. We have received over 50 accolades and been rated highly in authoritative industry ratings. Aeroflot won two categories at the prestigious Skytrax World Airline Awards – Best Airline in Eastern Europe and Best Premium Economy Onboard Catering – as well as key categories at the World Travel Awards – Europe's Leading Airline Brand and World's Best Business Class. In 2018, Aeroflot was for the first time named Best Airline in Eastern Europe at the Business Traveller Awards, and its customer service was recognised to be the best among Russian brands according to KPMG. Throughout the year we continued to increase our operational efficiency. As a result, Aeroflot significantly strengthened its position among the most punctual airlines. In 2018, 82.98% of Aeroflot flights operated according to schedule. According to authoritative UK aviation publication FlightGlobal, Aeroflot was the world's fifth most punctual airline and second in Europe. Punctuality makes trips more comfortable for our passengers and allows us to avoid additional costs, which directly impact our finances.

Our operating results reflect our efforts to grow and develop the company further. In 2018, the airlines of Aeroflot Group carried 55.7 million passengers, up 11.1% year-on-year. Aeroflot, our flagship airline, carried 35.8 million passengers, an 8.9% increase year-on-year. We achieved a number of the goals of our Strategy-2025 well ahead of schedule, and having reassessed our capabilities we have now set ourselves new even more ambitious goals.

In 2018, the Board of Directors approved the Group's new Growth Strategy through 2023, with the title "100 Million Passengers by Our 100th Anniversary" (or "100 by 100"). The Group is now targeting 90-100 million passengers in 2023, when Aeroflot will celebrate its centenary. The strategy calls for the Group's low-cost carrier Pobeda to be a key growth driver. By 2023, Pobeda is expected to carry 25-30 million passengers annually. In the next five years we plan to further develop our Europe-Asia transit service via Moscow. Aeroflot has indisputable competitive advantages in the Europe-Asia transit segment and offers flights up to three hours shorter than peers on these routes. By 2023, we plan to increase our international transit traffic to 10-15 million and strengthen Moscow's status as a global transport hub. Aeroflot Group will open regional hubs across Russia – in Sochi, Ekaterinburg and Novosibirsk, as well as an international hub in Krasnoyarsk. This will help increase connectivity between Russian regions and will support their economic development.

To fulfil these goals Aeroflot needs a modern and reliable fleet. By 2026, Aeroflot Group plans to operate 200 Russian-built Superjet 100 and MC-21 aircraft. Another area of focus is the digitalisation of the Group's airlines.

Aeroflot currently ranks fourth globally in US-based consultancy Bain & Co.'s ranking of digitalisation of airlines. We are implementing major digital projects, including Big Data projects, working with AI technology and expanding our onboard internet programme.

Aeroflot believes that technology is an important tool that will help the Group to enhance customer service and improve cost-effectiveness, and will contribute to a more stable financial position even in a challenging market environment. Digitalisation coupled with an effective cost optimisation programme allowed Aeroflot Group to deliver positive FY 2018 results despite unprecedented fuel price growth and ruble depreciation. The Group's posted IFRS net income of RUB 5.7 billion. Aeroflot has once again demonstrated its ability to deliver growth even in a challenging market environment.

We are optimistic about our future and expect our operational development to have an impact on our financial results. According to the updated Strategy, by 2023, Aeroflot Group's revenue will reach RUB 1.3 trillion, compared to RUB 0.6 trillion in 2018. Together with revenue growth we focus on operating margins. Overall, we can say that one of the key goals of our strategy is to increase shareholder value.

Achieving strategic goals means entering a qualitatively new stage of development and further strengthening the Group's position in the global aviation market. Aeroflot can achieve historic passenger traffic records and give a new impetus to our century-old brand.

Aeroflot Group develops together with the country. We continue to focus on promoting sustainable business practices through our commitment to ESG standards. We support socio-economic growth and technological development and set the pace for the whole industry. Aeroflot plans to continue to deliver on its most important mission: to provide Russian citizens with a modern and reliable fleet. The interests of Russia and its citizens remain Aeroflot's key guidance.

Aeroflot Russian Airlines

" Our Group is committed to tackling this crisis and demonstrating that we have all the assets to overcome it, as we have done time and time again throughout our history. " Dear Shareholders, As I write this, the world is experiencing an unprecedented health crisis. The global fight against Covid - 19 is underway, and our economies and societies are reeling. This is an unprecedented chapter in the history of the Air France - KLM Group, as well as for the airline industry as a whole. Our Group is committed to tackling this crisis and demonstrating that we have all the assets to overcome it, as we have done time and time again throughout our history. Our primary asset is the 83,000 employees at the Air France - KLM Group. Whether at Air France, KLM, Transavia, Hop! or KLM Cityhopper, on board our aircraft, at the airports, in our maintenance hangars, on the runways or in our sales departments around the world, our employees have shown exceptional commitment and dedication since the beginning of this crisis They have worked tirelessly to transport medical equipment and to repatriate more than 300,000 of our fellow French, Dutch and European compatriots. It is also in these moments that we can see the true strength of the Air France - KLM Group. Our Group's assets are plentiful. Throughout 2019, we have been building the foundations of our Group's go forward plan: renewed managerial governance, simplification of our brands, clarification of our products, harmonization of our fleet, and greater trust and stability in our relationships with our labor partners. In 2019, we accelerated our fleet renewal plans. With the order for 38 Airbus A350s and 60 Airbus A220s, and the phasing out of our Airbus A380s and Airbus A340s, Air France is continuing to simplify while adding greater operational flexibility. With a future fleet of long - haul aircraft comprising Boeing 777s and Boeing 787s, and the Boeing 737 for its medium - haul network, KLM will gain a major competitive advantage thanks to this simplicity." Our Group is committed to tackling this crisis and demonstrating that we have all the assets to overcome it, as we have done time and time again throughout our history. "2019 Universal Registration Document — Air France-KLM 3 AIR FRANCE - KLM IN 2019 104 MILLION PASSENGERS 1.1 MILLION TONS OF CARGO 554 AIRCRAFT 312 DESTINATIONS 116 COUNTRIES SERVED 3,000 AIRCRAFT MAINTAINED FOR 200 AIRLINE CUSTOMERS The introduction of new aircraft into our fleet is also a lever for accelerating our sustainable growth. Having been committed to sustainable transformation for many years, we again ranked first on the Dow Jones Sustainability Index in 2019, positioning us as the industry leader in terms of sustainability and overall Corporate Social Responsibility. This work on our fundamentals has been a necessary step to solidify the basis of our future. In November 2019, we presented our strategic trajectory from 2020 to 2025, along with four key priorities. Firstly, the optimization of our operating model, to improve the efficiency of our processes. Secondly, to increase our revenues by leveraging the power of our hubs and our development in the most profitable segments of our three brands Air France, KLM and Transavia. Thirdly, the development of the Group's other businesses such as maintenance, cargo, our Flying Blue frequent flyer program, and how best to leverage our customer data. Our last strategic focus is pragmatic consolidation opportunities in our sector.

The world post crisis will no longer be the same. The fundamentals of our strategy remain, but in a sector that is likely to undergo profound changes, we must adapt and accelerate our transformation. We are determined to see Air France - KLM overcome this crisis and become a European champion. With what we have achieved in 2019 and with the extraordinary commitment of all our employees, I know that we will succeed, to the benefit of our employees, our customers, our shareholders, all our partners, and indeed for future generations.

Air France

Dear Traveler, As you may know, a 24 hours strike was confirmed Thursday 22 September by ANPAC which represents some of our pilots and cabin crew. We are working hard round the clock in every department to minimize disruptions for our customers. Unfortunately, despite our efforts, the strike will result in the inevitable cancellation of many flights and some of your travel plans may be affected. And for this I would like to apologise. At Alitalia, we believe that customers should always come first. With this in mind, we have already implemented special measures to rebook as many customers as possible on the first available flights. We will have additional staff at our major bases of Rome Fiumicino, Milan Linate and other key airports to help customers. We also deployed extra staff to answer your calls to our 24-hour call centre, which can be contacted from Italy through the toll-free number 800 650 055. For those calling from abroad, the number is +39 06 65649. If you have travel plans for 22 September, please contact the call centre or our website to check the status of your flight before going to the airport.

We have extended our rebooking policy so that you can change your flights, at no extra cost, up to 30 November, 2016. You will also have the option for a full refund of your ticket if your flight is among those cancelled on 22 September. As Alitalia's CEO I have tried in every way to avoid this strike, which I consider unfair to our customers and pure madness for our business. Thank you for your understanding and for your continued trust in Alitalia.

Alitalia

I. Letter to Shareholders

China Airlines develops its sustainable business strategies in six major directions: "safety, governance, fleet and flight network, products and services, group cooperation, and brand perception," and adopts a quality policy of "discipline and safety, customer-orientation, green energy and environmental protection, and pursuit of excellence" to implement its strategic objectives. China Airlines is committed to providing a gratifying flight experience for every passenger. It is also devoted to making China Airlines a sustainable, eco-friendly enterprise that promotes the economic development of society. Looking back on air transportation business promotion in 2019, we note that passenger flights have been increased on the existing Taoyuan-Nagoya, Taoyuan-Takamatsu, Taoyuan-Fukuoka, Taoyuan-Palau, and other routes in regional markets;On long-haul routes, next-generation fleets have been used to continually increase flights on routes such as Taoyuan-Los Angeles, Taoyuan-Honolulu, and Taoyuan-Melbourne, and inter-airline cooperation has been strengthened to deepen market layout. As for cargo transport, potential markets have been thoroughly developed, as in the multi-leg route for US west coast return flights to Nagoya, which was launched at the end of March, and the Mumbai-Amsterdam route, which was launched in November, to increase revenue;at the end of October, a second cargo flight to Chongqing was added to work with the shipping schedules of major customers; the loading performance was quite good;and to respond to the needs of postal customers, Zhengzhou customized charter service was implemented in Q4 to maximize the utilization efficiency of cargo aircraft. In 2019, China Airlines' sustainable operations continued to win important domestic and foreign awards: we were selected for the "Global Corporate Sustainability Awards" for the first time;selected for the "Top 5% in Corporate Governance Evaluation" and the "TW ESG Index" for the second time;selected for the "TWSE RAFI® Taiwan High Compensation 100 Index" and the "TWSE RA Taiwan Employment Creation 99 Index" for the third time;selected for the Dow Jones Sustainability Index (DJSI) and the FTSE4Good Index Series for the fourth time;winning the Taiwan Corporate Sustainability Awards (TCSA) for the sixth consecutive year. Other important awards include winning the 2020 APEX Five Star Global Airline and the Top Service Awards held by Next Magazine for three consecutive years. In recent years, to actively respond to global warming and to reduce the impact of climate change on the industry, China Airlines continues to formulate sound extreme climate response mechanisms and operating procedures, and implements greenhouse gas reduction through the establishment of short, medium and long-term carbon reduction targets for air and ground operations. In 2019, China Airlines was again ranked by the Carbon Disclosure Project (CDP) with an A-/Leadership level, a grade above that of global airlines. With the concerted efforts of the management team and all of its employees, China Airlines continues to be recognized by the public for the results of its overall operations and various policies. In the future, China Airlines will continue to move towards sustainable development with proactive, stable, prudent, and flexible strategies.

1.1 Operating Performance in 2019 Operating revenue in NT dollars (same hereafter) was NT$146.372 billion, a 2.59% decrease over the past year, and after-tax net loss was

NT$1.20 billion, for a basic after-tax net loss of NT$0.22 per share. 1.1.1 Results of the business strategy A. Fleet: China Airlines completed the selection of cargo aircraft 777F and regional narrow-body passenger aircraft A321neo in 2019, which are expected to be introduced successively starting from 2020 and 2021, respectively. China Airlines actively optimized its fleet structure, completed the A330-300 sale-leaseback operation to reduce book losses and residual value risk, and was successful in leasing the 747-400F sealed cargo aircraft to activate asset utilization. As of the end of December, our fleet size was 91 vessels, including 70 passenger aircraft (including leased aircraft) and 21 cargo aircraft. China Airlines is committed to improving our fleet's operating fitness. In the future, with the introduction of new aircraft and phasing out of old aircraft, our operating efficiency will more comprehensive and more fully improved. B. Passenger flights: Revenue from passenger business was NT$96.177 billion, a 2.05% increase over the past year and accounting for 65.71% of total operating revenue. As of the end of 2019, the China Airlines Group flew to 23 countries and 72 passenger destinations, spanning Asia, Europe, the Americas, and Oceania. On average, there are 712 round-trip flights per week. C. Cargo flights: Revenue from cargo business was NT$43.406 billion, a 12.17% decrease over the past year and accounting for 29.65% of total operating revenue. As of the end of 2019, the China Airlines Group flew 18 cargo planes in cargo operations to 15 countries and 37 destinations. On average, there were an average of 90 cargo flights per week. D. Other operating income: Other operating revenue included in-flight duty-free sales revenue, the total from which was NT$6.789 billion, a 2.96% increase over the past year and accounting for 4.64% of total operating revenue. E. Investments and earnings: As of the end of 2019, the Company had investment in a total of 32 companies, in areas of business such as air business, ground services, logistics, aircraft maintenance, air cargo station business, etc., which contributed NT$1.812 billion in revenue over the year. 1.1.2 Business cash-flow budget and profitability analysis A. Cash flow: Operating revenue was NT$146.372 billion, which is a reduction of 3.892 billion from last year. Operating costs and expenses were NT$146.292 billion, which is a reduction of NT$2.125 billion from last year. Pre-tax net loss was NT$1.187 billion, which is a reduction of NT$3.502 billion from the past year. After-tax net profit was NT$1.20 billion, which is a reduction of NT$2.990 billion from last year. B. Budget execution: Projected operating revenue was NT$154.121 billion, and actual operating revenue was NT$146.372 billion, for a 94.97% attainment; projected operating costs and fees were NT$151.887 billion, and actual operating costs were NT$146.292 billion, for a spend rate of 96.32%. Projected losses from non-operating activities totalled NT$1.384 billion, with actual losses from non-operating activities at NT$1.267 billion. Projected annual pre-tax net profit was NT$0.85 billion, and actual pre-tax net loss was NT$1.187 billion. C. Profitability: Return on assets 0.51% Return on equity -2.11% After-tax profit margin -0.82% After-tax earnings per share -NT$0.22 1.1.3 Research and development In 2019, China Airlines' information strategy development focused on enhancing the operational competitiveness and industrial technology of the Company and the airlines group. Following the seven main themes of artificial intelligence, smart technology/vehicles, big data, mobile applications, cloud computing/edge computing, virtual reality/augmented reality, and information security, China Airlines continued to perceive the pulse of the industry, utilize technology to understand customer value, understand profit-earing trends, find opportunities for innovation, strengthen information security risk management, and enhance the company's operational competitiveness. In addition, China Airlines is committed to improving its website experience quality; expanding the development of website functions to optimize the ticket purchasing process; introducing 3D verification functions for credit card transactions to ensure the security of customer transactions and prevent credit card fraud; and building multiple payment tools and supporting multi-currency payments. To better service our passengers, new fare products were launched in September 2019. Passengers can choose additional products according to their travel needs, such as baggage allowance, preferred seats, and mileage accumulation standards, for them to select a la carte or package fares. 1.2 Business Plan for 2020 Benefiting from the government's continued promotion of tourism policy in Taiwan and the relatively stable price of oil, the passenger load factor in 2019 was slightly higher by about 1% than that in 2018. However, the overall operation performance has been affected by the anti-China extradition movement in Hong Kong, restriction on Chinese tourists, and the rise of low-cost carriers, which have caused fierce industrial competition and a drop in rate of return. Cargo transport has been affected by international trade protectionism and the US-China tariff dispute, and market growth has slowed down. In order to respond to changes in the external business environment, China Airlines has been optimizing the aviation network for passenger transport through aircraft model adjustment and flexible capacity allocation, based on market conditions and to meet travel and transportation needs. For cargo transport, shifts were flexibly adjusted, and the shipping space allocation of each zone was flexibly used to increase revenue. For the delivery of special cargoes, such as precision machinery, cold chain products, and aviation materials, continuous development and shipping price segmentation were carried out to enhance the overall revenue. 1.2.1 Passenger Service China Airlines actively cooperates with the government's new southbound and foreign policies, and continuously evaluates the development of potential markets and increase of flights for Southeast Asian routes. At the same time, we concentrate our layout in Japanese and Korean markets in response to market demand. For the long-haul route markets of New Zealand, Australia, Europe, and America, we have adjusted the structure of the aviation network and strengthened the transit hub position of Taoyuan Airport; as for cross-strait routes, China Airlines will closely follow market dynamics and adjust transport capacity in a timely manner. A. Northeast Asian Routes: In response to the high demand of the Taiwanese people for travel in Japan and South Korean, China Airlines continues to expand routes in Japan and South Korea every year. Since the end of March 2019, Taoyuan-Nagoya flights were increased from 12 per week to 14 per week, Taoyuan-Takamatsu flights were increased from 4 per week to 5 per week, and Taoyuan-Fukuoka flights were increased from 17 per week to 18 per week. In addition, in order to meet the demand for people in central and southern Taiwan wanting to travel to Japan, Taichung-Okinawa flights were increased from 5 per week to 6 per week since the end of March 2019. To take the initiative in securing the increasing market demand, we further plan to increase Taoyuan-Takamatsu flights to 7 flights per week beginning March 2020, and increase Taoyuan-Fukuoka flights to 19 flights per week beginning April 2020. Seasonal, holiday/festival, and thematic charter flights have been continuously arranged to meet seasonal demand, which strengthen China Airlines' leading position in the market. B. Southeast Asian Routes: In line with the government's new southbound and foreign policy, China Airlines continued its increase of flights to Bangkok, Penang, Hanoi, Phnom Penh, and other routes in 2018, and increased the Taoyuan-Palau flights from 2 to 3 per week since February 2019, and further increased such number to 4 flights per week since June 2019. In addition, in order to actively expand the Southeast Asian aviation network layout and to strengthen the aviation network transfer market, we have announced plans in 2020 to launch the Taoyuan-Cebu and Taoyuan-Chiang Mai routes. C. Cross-Strait Routes: Due to the impact of China's policy of restricting Chinese tourists coming to Taiwan and the anti-China extradition movement in Hong Kong, cross-strait travel demand is not as robust as in previous years;China Airlines takes the initiative to respond to market movements according to market demand and passenger composition through aircraft model adjustment and flexible regulation of transportation capacity, which maintains profit margins for the routes. In the future, China Airlines will continue to flexibly adjust transportation capacity depending on the cross-strait policy development and market conditions. D. Long-Haul Routes: In order to actively increase the benefits of China Airlines' Californian (North America) destinations and aviation network and to expand customer sources, beginning at the end of October 2019, we resumed having three CI006/CI005 Taoyuan-Los Angeles flights per week, increasing Taoyuan-Los Angeles flights to 10 per week, with the addition of 7 flights on the Taoyuan-Ontario route per week, totaling to 17 flights per week to and from the Greater Los Angeles area, making it easier for travelers to reach major inland cities in the United States. In addition, the aircraft model on the Taoyuan-Ontario route was adjusted from Airbus A350-900 to Boeing 777-300ER, providing more Premium Economy Class seats for passengers. Also, in order to continue to stimulate the North American tourism market, flights on the Taoyuan-Honolulu route were increased from 2 flights per week to 3 flights per week in the summer schedule, providing a variety of choices for visitors to the United States. E. European Routes: To stabilize China Airlines' leading position in Taiwan's Continental Europe flight market, beginning in 2018, flights on the Taoyuan-Vienna route have been increased from 3 flights per week to 5 flights per week, and we have maintained 5 flights per week throughout the year of 2019; meanwhile, during peak season from September to October, flights were increased to 6 per week. In addition, the enlarged aircraft model on Taoyuan-Amsterdam was changed to 777-300ER during the summer schedule in 2019 to increase the supply of seats. In the future, a more dense and convenient European aviation network will be provided to enhance the efficiency of China Airlines' extension of the European aviation network. F. Australia and New Zealand Routes: In order to continuously improve the New Zealand and Australian aviation networks, China Airlines has increased the flights on the Taoyuan-Melbourne route to 4 flights per week from the end of October 2019. During the winter season, in addition to increasing flights to New Zealand and Australia to 22 flights per week, it has also expanded its seat supply to meet market demand. In addition to securing its market share, China Airlines will also actively expand bidirectional connections market among New Zealand, Australia, Europe and Northeast Asia, strengthening China Airlines' travel services. 1.2.2 Cargo Service In 2019, due to the disturbance of US-China trade war and the slowdown in the growth of global trade, the overall air cargo transport market was full of challenges. The Company continues to cultivate potential cargo transport markets, and launched the Nagoya, Japan route at the end of March to provide direct import and export services for the manufacturing industries in Nagoya and Central Japan; also, taking advantage of the rapid growth of India's emerging markets, the Mumbai-Amsterdam route was launched in mid-November and achieved impressive results. Fighting for cross-strait cargo aircraft traffic rights, the second cargo aircraft flight to Chongqing has been added since the end of October, and the flight loading performance was quite good. To meet the needs of postal business clients, China Airlines plans to implement 15 customized charter flights to Zhengzhou in Q4, and continue the regular charter flights on Taoyuan-Columbus, Hong Kong-Chicago, and other routes from Asian cities to major U.S. cities.

Recently, in response to the impact of the pandemic situation and the uncertainty of US-China trade on cargo aircraft operations, short-term flight reduction measures have been adopted for cross-strait and Hong Kong routes; also, European and American flights were combined accordingly. The overall business plan is described as follows: A. Long-Haul Routes China Airlines plans 34 flights per week and strives for regular annual cargo charter flights to Columbus, USA. Through inter-airline cooperation, expanding the import and export sources of goods in Central and South America, extending aviation network services, and increasing loading capacity. After the introduction of the new 777F cargo aircraft at the end of 2020, China Airlines will prioritize flights to US West Coast destinations to improve flight payload and optimize economic efficiency. B. European Routes: China Airlines will maintain the operation of 6 flights per week in cooperation with the Indian market development plan, and continue to promote the potential markets of Delhi and Mumbai in India, so as to achieve two-stage revenue benefits. C. Regional routes: China Airlines will optimize the transportation capacity of Singapore, Penang, Ho Chi Minh City, Hanoi, and other Southeast Asian routes. Weekly flights will be gradually increased to 55 flights in the summer schedule of 2020. Through the increase in the proportion of regional cargo sources, we look to improve the profitability of Southeast Asian cargo aircraft. China Airlines will continue to evaluate the flight increase plan for potential destinations on the cross-strait cargo aircraft route (including Guangzhou, Chongqing, and Zhengzhou) to strengthen the cross-strait profitable route layout. For Hong Kong and Northeast Asia, in addition to maintaining the operation of 16 and 5 flights per week, respectively, China Airlines will strive to secure non-regular charter flight business and develop high-priced sources of goods. D. Improving revenue management and extending chartered flight business and high-growth source of goods: (1)Improving revenue management: In order to meet the demand for machine driven by the emerging 5G industry, China Airlines will take advantage of using Boeing 747-400F cargo-only aircraft to load large cargoes for the transport of large machinery, which will increase revenue by providing differentiated services. (2)Customized charter flights business: China Airlines will deeply cultivate emerging markets such as Southeast Asia, and promote customized charter flight business on a regular/irregular basis. (3)Deepening cooperation with inter-airline express delivery companies: Maintaining cooperation with UPS, DHL, FedEx, SF Express, and other international express delivery companies to strengthen partnerships with Japanese and American airlines in the Asian region. (4)Promoting cold chain cargoes: China Airlines obtained CEIV Pharma certification from the International Air Transport Association (IATA CEIV Pharma) in April 2019. It is the first airline in Taiwan to receive this honor, and the certification can effectively increase the growth rate of the high-value cargo market. 1.3 Development Strategies As the aviation industry provides international passenger and cargo transportation services, its operations are susceptible to global economic growth and political and economic conditions. According to the economic forecast published by IHS Markit in February 2020, the estimated global economic growth rate is 2.5%, slightly lower than the 2.6% of 2019; the growth rate in Taiwan is 2.1%. The International Air Transport Association (IATA) originally estimated in December 2019

that in 2020, the growth rate of demand for the air passenger transport market would be 4.1% globally, 4.8% in the Asia-Pacific region, and that air cargo transport volume would increase by 2.0%. However, as the COVID-19 pandemic has increased in severity, the IATA estimates that the growth rate of demand for the air passenger transport market in 2020 will become negative, and the passenger transport revenue will be reduced by about 63 billion to 113 billion USD due to the implementation of tourism restrictions on the grounds of epidemic prevention in various countries.
Faced with such a highly competitive external environment, political and economic ripple effects, climate change and environmental protection issues, geopolitical risks, changes in exchange rates and oil prices, various uncertainties with the added uncertainty of the epidemic that is currently affecting the air transport market, this year (2020) will be a very difficult year for airlines. The Company will take a proactive and rigorous attitude to carry out risk management and control, and establish corresponding response strategies. For pandemic prevention operations, we will follow the guidance of the World Health Organization (WHO) and other public health authorities and implement disease prevention work to ensure passenger safety. For passenger transport, we will continue to flexibly adjust transport capacity to respond to changes in the market. Through the solid establishment of the aviation network and the deepening of inter-airline cooperation, we aim to expand benefits, increase revenue, optimize cabin products, and strengthen brand marketing, so as to optimize passenger experience and enhance customer loyalty. For cargo transport, we aim to increase the overall revenue through introducing next-generation aircraft, strengthening operational efficiency, implementing revenue management improvement, and promoting customized charter business and cold chain transportation services. In addition, to accommodate to digital technology trends, we will expand online sales to improve the efficiency of mobile business applications, and promote electronic services to improve the convenience of passenger and cargo transport. Through professional operation and management, we will focus on businesses with niche and development potential, integrate group resources to strengthen our overall competitiveness, and expand economic scale and scope, so as to effect business synergy and thus reach business sustainability.
China Airlines

Dear sharholders, I am pleased to present the report on the financial results of the Group for the year ended 31 December 2019. On behalf of the entire staff of the Group, I would like to extend my sincere thanks to the Shareholders. Business Review In 2019, the growth of the global economy has slowed down and various unstable uncertainties affecting economic development have increased significantly. The downward pressure on China's economy has increased, but the overall economic operation has been stable and maintained a relatively rapid growth. The annual GDP (Gross Domestic Product) in China increased by 6.1%. Affected by the macroeconomic downturn, the growth of the global civil aviation industry has slowed down. In 2019, the total passenger traffic volume of the global airline industry only increased by 4.2% year-on-year. The growth of China's civil aviation industry has also slowed down, with the total passenger traffic volume for the year increased by 7.9% year-on-year, yet still higher than the global average.
The Group adheres to maintaining a highly responsible attitude towards the safety of its passengers and employees. Based on the prudent business philosophy and professional analysis and judgment, the Group always insists on prioritizing safe operation, maintains strategic stability in operations, persists in deepening reforms, and focuses on fine operations to strengthen risk management and control, seizes development opportunities, and has achieved reasonable growth in results of operations.In 2019, the Group carried 130.297 million passengers, representing a year-on-year increase of 7.5%; under the IFRS, the Group achieved operating revenue of RMB120,986 million in 2019, representing a year-on-year increase of 4.95% and achieved the net profit attributable to shareholders of the parent company of RMB3,192 million, representing a year-onyear increase of 18.31%; under PRC Accounting Standards, the Group achieved operating revenue of RMB120,860 million in 2019, representing a year-on-year increase of 5.16%, and achieved the net profit attributable to shareholders of the parent company of RMB3,195 million, representing a year-on-year increase of 17.94%.
Review of Operations Safe Operation The Group adheres to the civil aviation safety lifeline and with zero tolerance for hidden safety hazards, and has maintained a stable safety situation throughout the Year. In terms of risk management and control, the Group has scientifically analyzed and properly handled the safety hazards of the flight model B737 MAX 8, which resulted in suspending the commercial operation of such model. Also, the Group has studied the risks of new aircraft and new routes in advance and speeded up the verification and flight testing on new air navigation technologies to continuously strengthen the foundation for safe development. In terms of mechanism establishment, the Group has improved the relevant rules and regulations and implementation rules of its safe production responsibility system to further consolidate safe responsibilities. The Group has also provided training and revised its operation manual regarding CCAR121-R5 (Rules of Qualification Review for Large Aircraft Carriers in Public Aviation Transport, the fifth revision). In terms of system construction, the Group has built a ground-to-air supporting platform which has provided professional support for more than 100 flights, established an engine functionality management platform and promoted air defense safety informationalization construction. In terms of safety supervision, the Group has actively carried out drills on safe production emergency plans, and strengthened safety supervision in areas including flight, air defense, maintenance, and network information.
In 2019, the Group's fleet had 2,394,000 safe flying hours in total, which have increased by 8.5% compared to the same period last year. The Group's fleet had 988,000 take-off and landing flights, which have increased by 7.0% compared to the same period last year. Hub Network The Group has continued to strengthen its hub network strategy, coordinated the planning of the two core hubs of Beijing and Shanghai, and successfully opened a new era of operation and development of "two cities, four airports and dual core hubs"Note 1 in Beijing and Shanghai. Based on the strategy of the integrated development of Beijing-Tianjin-Hebei region, the Group has completed the construction of CEA Base in Beijing Daxing International Airport with high quality, and the base has been put into operation, making the Group the first base airline to obtain the final acceptance of the construction. China United Airlines, a low-cost airline under the Group, has been relocated from Beijing Nanyuan Airport to Beijing Daxing International Airport, as the first airline to officially operate in Beijing Daxing International Airport. The Beijing-Shanghai express (Shanghai Hongqiao-Beijing Capital), in which the Group heavily invested is still in operation in Beijing Capital International Airport. Based on the national strategy of "Yangtze River Delta Integration", the Group has continued to strengthen its construction on the core hub in Shanghai, actively strived for operational resources, served the transformation of Shanghai into the city of "five centres" and coordinated the development of the regional economy. Along with the official operation of the Satellite Terminal S1 of Pudong, transit connection efficiency has been significantly increased, resulting in a great improvement in travel experience of passengers. Also, with the optimization in the network layout of the Shanghai Hongqiao International Airport covering major domestic business cities, the Group has improved the operational quality of its business express routes and quasi express routes. With the synergy of the two core hubs of Beijing and Shanghai, the Group will establish a new layout of the global route network in an invincible trend. The Group has focused on the core hubs of Beijing and Shanghai, and the regional hubs such as Xi'an and Kunming to continuously optimize its route network layout and flight capacity allocation to strengthen the Group's market share and influence. In 2019, the Group's market shares in hubs such as Shanghai, Beijing, Kunming and Xi'an were 40.6%, 18.3%, 37.2% and 29.4%, respectively. Through the scientific matching of routes and flight capacity and the optimization of transit connection procedures, the effect of hub network has gradually appeared. OD yield of the three hubs, namely Shanghai Pudong, Xi'an and Kunming, significantly increased by 11.6%, 34.4% and 9.9%, respectively. The transit passengers of the three hubs, namely Shanghai Pudong, Kunming, and Xi'an amounted to 3,488,000 passengers, 1,658,000 passengers and 580,000 passengers, respectively, representing a year-on-year increase of 11.1%, 3.0% and 7.8%, respectively. In addition, the Group has actively seized the opportunity of the construction of new airports in Qingdao and Chengdu by deploying production facilities in advance and planning the route network in advance in order to broaden the Group's development space in the Qingdao and Chengdu markets.
As at the end of 2019, with the route network connection within SkyTeam Airline Alliance members, the route network of the Group reached 1,150 destinations in 175 countries. The Group has operated 137 Belt and Road routes in total in 65 countries along the Belt and Road, covering 40 cities in 18 countries.
Fine Operations and Lean Management The Group has strengthened its fine operations, focused on the improvement of customer experience, and taken the flight punctuality rate as the standard for unified allocation and management of operating resources to improve the quality of flight operations. The Group has improved its flight punctuality management system construction and institutional construction, promoted its service system construction, realized visualized tracking of flight operation and rapidly handled unpunctual flight to drive a comprehensive improvement of the level of the digital management of flight operations. In 2019, the flight punctuality rate of the Group was 81.84%, representing a year-on-year increase of 1.65 percentage points, which is higher than the civil aviation industry average. Through lean management, the Group has continuously reduced its unit operating costs and improved the operating efficiency, and reduced fuel costs in the various aspects such as the introduction of new models, design of route, flight operations, take-off, landing and taxiing, aircraft maintenance and training and incentives. Available tonne-kilometres fuel consumption in 2019 decreased by 4.4% year-on-year, and the estimated cumulative reduction in the volume of refueling was 195,500 tonnes. The Group's daily utilization rate of passenger aircraft was 9.55 hours per aircraft, representing a year-on-year increase of 0.12 hour per aircraft. Through the strengthening in fine management and control of increasing revenues and reducing expenditures and exercising due prudence in spending, and strictly managing and controlling major expenditures, the growth in operating costs of the Group in 2019 was lower than that in flight capacity and revenue.
Product Marketing and Customer Management The Group has achieved steady growth in passenger revenue by actively expanding auxiliary products, optimizing sales channels, and developing and maintaining customer resources.
Designing and launching various auxiliary and non-aviation products. The Group has actively established its branded fare products series, completed the branded fare products launching campaign in 63 direct routes in Southeast Asia, Hong Kong and Macao, expanded auxiliary products such as upgrades, preferred seats and excess baggages, newly added prepaid baggage products in its official website, customized and increased the release of personalized overnight transit products and presale route products, enriched CEA member point redemption products and optimized points payment function. The revenue from auxiliary products such as upgrades and preferred seats has presented a rapid growth trend, with a year-on-year increase of 44.5% and 35.0%, respectively.
Optimizing and broadening sales channels. Through the in-depth customer travelling behaviour analysis and the optimization of sales policies, the Group has strengthened the synergy of sales policies across all channels. The Company has made available the sales of auxiliary products such as preferred seats available on its official website and main OTA channels. Moreover, the Group has promoted various points marketing campaigns by combining point sales with diversified travel products and services.
Actively developing and maintaining customer resources of the Group. The Group has strengthened the construction of professional service teams for corporate clients, the sales revenue from the clients of the Group has increased by 14.3% year-onyear. The Group has intensified the cooperation with channels such as TMC, and the number of the third-party clients of the Group has increased by 38.7% year-on-year. The Group has actively maintained and developed frequent flyer members. As at the end of 2019, the number of frequent flyer members of the Company's "Eastern Miles" has reached 42,680 thousand, representing a year-on-year increase of 7.7%.
In 2019, the Group's passenger transportation capacity was 270,254 million seat-kilometres, representing a year-on-year increase of 10.38%. The passenger revenue of the Group amounted to RMB110,416 million, representing a year-on-year increase of 5.85%.
Passenger Services and Brand Building The Group does "addition" to services. The Group is step by step providing all-round service of "100% boarding bridge usage, 100% connection, 100% automatic baggage sorting, 60 minutes for MCT" in the Beijing Daxing International Airport and the Satellite Terminal S1 of Pudong. The Group has launched China's first Aviation Sign Language applicationNote 2 at the CEA Special Care Service Counter at Shanghai Hongqiao International Airport and Shanghai Pudong International Airport to provide a convenient service experience for hearing-impaired passengers. Platinum card mobile self-upgrades support has been available on 161 domestic websites. The Group does "subtraction" to services. The Group is the first airline to apply passive permanent electronic baggage tag which has significantly lowered the error rate of

abnormal luggage transport, with a year-on-year decrease of 12.1% in the rate of complaints from all channels. The Group has optimized service standards for high-end members and passengers, as well as onboard catering standards. The Group has advocated safe and quiet cabin services, reduced waste of resources, revised flight punctuality management measures to reduce flight delays caused by its own reasons.

The Group does "multiplication" to its brand. The Group provided full support to the second China International Import Expo, successfully accomplished the transportation service task for the second "Belt and Road" Summit Forum. The Group's "Lingyan" brand was re-awarded the certification of "Shanghai Brand"Note 3. The Group was recognized as one of the "Top 50 Most Valuable Chinese Brands" by Wire & Plastic Products Group (WPP), a global brand communication group, for eight consecutive years, awarded as the "Best China Airline" in the "TTG China Travel Awards" for the fifth consecutive year, recognized as the "Model Brand" in the Grand Ceremony of China Brands 2019, recognized as one of the "Top 20 Chinese Enterprise Global Image", awarded as one of the "World's 500 Most Valuable Brands" by Brand Finance, a British brand appraisal organization and recognized as one of the 2019 BrandZ "Top 100 Most Valuable Chinese Brands of 2019".

In January 2020, the Company launched a new membership system for the "Eastern Miles" to change the frequent flyer points accumulation system from mileage based to income based, introduced "CEA Wallet", a combination payment of "points + cash" to integrate frequent flyer's accounts, CEA points and bank account binding, which allows its passengers to pay for the purchase of products from the Company and other suppliers, increasing the scenarios for CEA points consumption and enhancing the value of CEA points.

3 The "Shanghai Brand" certification is a brand standard system independently developed by Shanghai relevant authority in accordance with the principles of "market orientating, corporate entities, and international mutual recognition" and based on the local standards of the "General Requirements for Shanghai Brand Evaluation".

External Partnerships and Strategic Synergy The Group has intensified its comprehensive cooperation with strategic partners and core partners to improve the capacity of international routes and enhance the quality of cooperation.

For the core markets of Shanghai and Beijing, leveraging on the operation of the Satellite Terminal S1 of Pudong and Beijing Daxing International Airport, the Group worked with SkyTeam Airline Alliance members and other important partners to carry out the plan for route network optimization connection, as well as the development of ground service procedure and standards, explore ground operating cooperation opportunities, design passenger travel plan portfolio products and continue to expand the codesharing scope. As at the end of 2019, the Group's code-sharing covers 347 flight route destinations, 1,007 routes and 4,617 flights.

For the North American market, with the cooperation with Delta in the Satellite Terminal S1 of Pudong, the Group implemented operation in the same terminal with Delta and both the Group and Delta have increased in revenue from cooperation, including mutual sales revenue and revenue from SPA (special allocation agreements), representing a year-on-year increase of approximately 17%.

For the European market, the Group has expanded joint operation routes with Air France KLM by adding new routes from Kunming and Wuhan to Paris, and intensified the cooperation in the aspects such as transfer mode of through check-in, corporate clients and joint sales. Each of the Group, Air France, KLM and Virgin Atlantic has optimized transit connections and service procedure at their respective hub airports by the joint cooperation in operating China-Europe routes for strengths and resources sharing. The Group has newly-shared code with Air Europa Spain.

For the Australian market, the in-depth cooperation with Qantas in the areas of code-sharing, allocation of flight capacity, joint marketing, resources sharing and personnel exchange has driven the growth in mutual sales revenue from cooperation. 1 "Two cities" refers to Beijing and Shanghai, the two core hub cities and "four airports" refers to Beijing Daxing International Airport, Beijing Capital International Airport, Shanghai Pudong International Airport and Shanghai Hongqiao International Airport. 2 Hearing-impaired passengers can use the sign language simultaneous translation application in front of the CEA Special Care Service Counter at the Shanghai Pudong International Airport and Shanghai Hongqiao International Airport. By clicking the "Oneclick video sign language translation" button, they can quickly be connected to the professional translation team in backstage to get online real-time sign language translation. monopoly approval for the joint cooperation with Japan Airlines and deepened the cooperation in the areas of route network and flight capacity sharing with Japan Airlines to strengthen the market position of the Group in Japanese routes. The Group has expanded mutual sales and SPA cooperation, as well as codesharing scope with Juneyao Airlines.

Reform and Development The Group attaches importance to reforms and actively promotes system and mechanism reform and the development of low-cost airline business, continuously enhances the role of reform and transformation in improving production and operation.

In relation to shareholding reforms, the Company and CEA Holding have successfully completed the cross-shareholding among Juneyao Airlines and Juneyao Group. As the result of the cross-shareholding, Eastern Airlines Industry Investment, a wholly-owned subsidiary of CEA Holding, holds 15% of shares of Juneyao Airlines, and Juneyao Airlines and Juneyao Group hold approximately 10% of shares of the Company in aggregate. The Company and Juneyao Airlines have appointed directors into each other's board of directors and special committee, building a comprehensive strategic partnership of "shareholding + business" in the benefits for further in-depth cooperation, synergy enhancement, sharing of strengths and integrated development between the two companies to better develop Shanghai aviation hub and serve the transformation of Shanghai into the city of "five centres".

In relation to system, mechanism and institutional reforms, the Group has continuously strengthened the systematization and connection of mechanism and institutional reforms to ensure safe operation, satisfy customer demands and create better operational efficiency. The Group has promoted the reforms in integration of marketing services and operational services to enhance business integration and resources allocation capabilities. The Group has improved the value creation based assessment mechanism. China United Airlines, a wholly-owned subsidiary of the Group, was recognized as a pilot enterprise of

National Mixed-Ownership Reform. Business Airlines, another wholly-owned subsidiary of the Group, has been changed to a "One Two Three" airline and operated domestically produced ARJ21 aircraft to meet the customer demands of regional markets, further enriching the operating brand series of CEA.

Corporate governance and social responsibility The Group operates in an accountable and sustainable manner through actively engaging in social, economic and environmental responsibilities, boosting its own sustainable development and facilitating a more solid cooperation relationship with stakeholders.

The Company focuses on improving its corporate governance in strict compliance with domestic and overseas listing rules and the requirements of laws and regulations. The Company has revised its major regulations such as the Articles, rules for procedures for general meetings and rules for meetings of the supervisory committee, in order to enhance the development of the decisionmaking system of the Board and fully utilize the power of the Party leadership, integrating the Party's leadership into corporate governance. Such measures provide a solid political guarantee for the Company's production and operation, and reform and development. The Group focuses on pollution prevention and control by facilitating the application of new technologies for energy conservation and emission reduction, speeding up the "diesel-toelectric" (replacement of diesel vehicle by electric vehicle) project in airports, promoting the replacement of Auxiliary Power Unit (APU) on aircraft and optimizing route design and flight operation. It is estimated that approximately 0.61 million tons of carbon emissions has been reduced throughout the year. Focusing on the development objective of "Establishing a WorldClass and Happy CEA", the Group has continuously promoted the construction of corporate culture by encouraging mutual development and sharing between the corporate and employees as well as solving practical problems of employees to show care and concern towards its employees. In 2019, through poverty alleviation projects, routes and flights as well as assignment of excellent young cadres to poor villages, the Group conducted poverty alleviation work through multiple aspects, such as capital, transportation, education, medical, industrial and talent. The poverty alleviation works are highly effective as reflected by the advance completion of targeted poverty elimination project in Cangyuan County and Shuangjiang County in Yunnan. Internal Risk Control and Establishment of Rule of Law Focusing on the main business of aviation, the Group prevented major risks. The Group attaches importance to comprehensive risk management and intensified the construction of internal risk control system by conducting special audits on key business areas. The Group has strengthened the management of capital assets and prevented major risks such as capital recovery, overseas operations and financial market volatility. The Group has prevented network security risks and created closed loop for information security. The security monitoring covered core system applications such as marketing, services, operations and maintenance. To strengthen protection for various types of data and information, the Group has set up the passenger information protection committee and established a sound passenger information protection team.

The Group has steadily promoted the construction of a "Rule of Law CEA" to provide legal protection and strong support for the its production and operation as well as deepening the implementation of in-depth reforms on various tasks. The Group continued to intensify the construction of a rule of law system, enhanced the awareness of the rule of law and consolidated the monitoring of legal affairs. The Group has strengthened prevention of legal risks, intensified management of legal compliance, and supported and protected the corporate reform and development by working on the rule of law. The Group has strengthened the team building of the rule of law working team, reinforced the construction of the legal affairs institution and launched rule of law promotion, education and business training.

OUTLOOK FOR 2020 The Group would like to bring to the attention of readers of this report that this report contains certain forward-looking statements, including forward-looking statements of international and domestic economies and the aviation industry, and descriptions of the Group's future operating plans for 2020 and beyond. Such forward-looking statements are subject to many uncertainties and risks. The actual events that occur may be different from forward-looking statements of the Group which, therefore, do not constitute any commitment by the Group to the future operating results.

In the beginning of 2020, the outbreak of the novel coronavirus pneumonia disease ("COVID-19") has increased downward pressure on the global economy, and the global aviation is facing tremendous challenges. The travel restriction measures implemented by many countries have greatly reduced the travel demands and willingness of passengers. The capacity of global airlines significantly decreased and some airlines have struggled to survive. As at the date of this report, the duration of COVID-19 all over the world remains greatly uncertain, which may increase and extend the impact on the recovery of travel demands. COVID-19 may catalyse new changes in the scale of the global air transport industry.

The Group has quickly responded to the strike of COVID-19 and strived to prevent and combat COVID-19 in the country, community and the Group. While ensuring the health and safety of employees and passengers, the Group, at the same time, adopted prudent operation strategies by suspending or adjusting operation of certain flights in a timely manner, actively supported and responded to the policies and appeals from different levels of government, regulatory units, industry organizations and other external institutions, implemented strict cost control measures, optimized fleet management approaches, negotiated with suppliers and related parties, suspended introduction of planes, optimized payment methods, reduced or delayed investment plans, and speeded up financing processes to ensure stable out 154 special COVID-19 prevention charter flights and sent 15,937 medical personnel and 3,634.54 tons of emergency supplies for COVID-19 prevention. The Group has also sent medical experts and supplies of COVID-19 prevention to Italy, Czech Republic and other countries. CEA Holding, the controlling shareholder of the Company, has donated RMB10 million to the affected areas for COVID-19 prevention and control.

Similar to most of the airline companies in the industry, the impact and influence of COVID-19 posed significant uncertainty on the international and domestic business of the Group and the general impact on the operation and financial condition of the Group for the year cannot be precisely predicted currently. The Group will treat the physical and mental health of employees and customers as first priority, and ensure the safe operation, as well as closely monitor the change in the situation of COVID-19 so as to adjust according to the market demand to lower the negative impact of COVID-19. In 2020, the Group will focus on the following on the basis of continuous effort in safe operation, marketing, service enhancement, and strengthening of the Party building:

1. Further optimization and strengthening of the measures for COVID-19 prevention and control to safeguard employees' safety and customers' benefits and to ensure safe and stable production operation during the outbreak of COVID-19.
2. Close monitoring of the change in COVID-19 and market condition, strengthening of the research and analysis of market and scientific prejudgment, proactively preparing for the market demand and the resumption of flight operation in the post-COVID-19 period, enhancing the fine operation capacity, and refining and strictly implementing measures to increase revenue and reduce cost, in order to reduce operation costs.
3. Capturing the external environment and the trend for industry development and formulate the 14th Five-Year Plan reasonably; continuous deepening of the reform of systems and mechanisms to promote key reform tasks.
4. Commitment to sustainable development and proactive fulfillment of social and environment responsibilities; adherence to the concept of green development, strengthening in construction of system for energy management, environmental protection as well as energy conservation and emission reduction; winning the battle against poverty to consolidate the result of poverty alleviation and elimination.
5. Strengthening of risk awareness with emphasis put on prevention and mitigation of significant risks, continuous optimization of the prevention mechanism and emergency drills for safety risks, financial risks, legal risk, internet safety risks and risk in outbreak of public health concern so as to enhance the capabilities in risk prevention.

China Eastern

In 2018, Delta celebrated the 10th anniversary of our groundbreaking merger with Northwest Airlines, which created the foundation for the transformation of our company. Every year since the merger, we have built on the success of the previous year, learning lessons and honing our strategy to achieve more for our people, our customers, our communities and our shareholders. First and foremost in our mind is running a safe, reliable and customer-focused operation. In 2018, we had 143 cancel-free days across the entire Delta system including both the mainline and regional carriers, up from 90 days just a year ago. We accelerated revenue growth to 8% on an increasingly diverse revenue base and offset over 90% of the $2 billion increase in fuel costs compared to the prior year. In 2018 more than half of our revenue was generated from premium products, our loyalty program, aircraft maintenance and cargo, relying substantially less on the Main Cabin product. Importantly, we saw improvement in cost performance and reduced non-fuel unit cost growth below the rate of general inflation. We continued to strengthen our brand, achieving a record high domestic net promoter score in 2018, with improvement in all geographic regions. And we continue to launch partnerships with carriers throughout the world — we started a joint venture with Korean Air, signed an agreement with WestJet in Canada and filed for regulatory approval to bring together the separate joint ventures with Virgin Atlantic and Air France-KLM.

We broke records, flying more people than ever and widening the gap with the competition. We unveiled new routes to destinations across the globe and took delivery of world-class aircraft including the A220 as we continue to transform our fleet. We opened a state-of-the-art engine shop and outfitted 60,000 people in stylish and functional new uniforms. We deployed innovative new technology to our pilots, flight attendants and airport agents, enhanced our airports and forged new relationships with other carriers as we accelerate our global expansion. We made significant progress leveling the playing field with state-subsidized Gulf region airlines. Because our people are our foundation, for 2018 we paid industry-leading compensation, including more than $1.3 billion in profit sharing. For our shareholders, we produced an after-tax return well above our cost of capital, paid $900 million in dividends and repurchased $1.6 billion in shares. We continued to strengthen our balance sheet, lowering our cost of borrowing and improving the funded status of our pension plan. Throughout it all, Delta people worked tirelessly to maintain our unmatched standard of excellence, safety and reliability. The human touch that Delta people provide is unique, and it's what continually sets us apart. Our culture — dedicated to servant leadership, a passion for our business, supporting our communities and building a sustainable future — is an advantage no one can match. Our powerful consumer brand, combined with our unmatched competitive advantages, including the best employees in the business, industry-leading operational reliability, a strong global network, growing customer loyalty and an investment grade balance sheet, support continued advancement as we create long-term value for shareholders. Every day, we become more passionate about running the best airline on the planet and serving as many customers as possible. Sincerely,

Delta Air Lines

To the honorable shareholders and stakeholders of the Company. All praise and gratitude are due to the Almighty God for all the gifts bestowed upon us all, the Company is still able to provide the best contribution to the Indonesian country with its achievements in 2019. On this occasion, please allow us to submit the Company's management report for the 2019 fiscal year. ANALYSIS OF COMPANY PERFORMANCE The Board of Directors has made serious efforts in carrying out activities in the midst of internal and external conditions that face significant challenges. World economic growth fell from 3.6% in 2018 to 2.9% in 2019. The trade war has reduced the economic growth of the United States (US) from 2.9% in 2018 to 2.3% in 2019. US exports have been under pressure which has an impact on domestic demand, especially non-residential investment and household consumption. Similarly in China, exports and investment have an impact on China's economic growth which decreased from 6.6% in 2018 to 5.9% in 2019. Economic growth in Europe, Japan, India, and many countries also experienced pressure. Easing monetary policy by reducing interest rates and expanding the Central Bank's balance sheet in various countries was not able to prevent a slowdown in the world economy.

In line with the world economy, despite a slight increase, the Indonesian economy has not yet fully recovered. Indonesia's economic growth needs continuous encouragement so that it remains resilient amid the risk of delays in the prospect of world economy recovery. In 2019, economic growth remained good at 5.02%, although it was lower than that of 2018 of 5.17%.

World and national economic conditions have had an impact on the aviation industry. The global aviation industry in general experienced a decline in performance in 2019 compared to that of 2018. Passenger traffic (Revenue Passenger Kilometers/RPK) growth in 2019 was 4.2%, a decrease compared to that of 2018, which was 7.4%. Whereas growth in Passenger Capacity (Available Seat Kilometers/ASK) also decreased from 6.9% in 2018 to 3.5% in 2019. In line with the conditions of global aviation industry, Asia Pacific Passenger traffic growth fell from 9.5% in 2018 to 4.7% in 2019. While Asia Pacific's passenger capacity growth was 8.8% in 2018 and 4.4% in 2019. In line with the global aviation industry, the growth of domestic air transport passengers during 2019 experienced a relatively significant decline of up to 20.11% percent compared to the same period the previous year.

To face all of the existing challenges and opportunities, Garuda Indonesia has tried to utilize its strengths and try to overcome its current limitations.

The 2019 strategy is part of the 2017-2020 Long-term strategy that emphasizes "Beyond Airline Business". Therefore, in addition to this airline business, the 2019 Work Program focuses on major work programs to develop revenue beyond the aviation business, so that it becomes a strong foundation for Garuda Indonesia to develop and expand in the subsequent years. The strategies applied are:

1. Multiple Joint Ventures by Garuda Maintenance Facility (GMF) As a subsidiary of Garuda Indonesia engaged in Maintenance, Repair, and Overhaul (MRO), GMF AeroAsia has considerable large potential to continue to develop its business as part of a strategic step after its Initial Public Offering (IPO) in the fourth quarter of 2017. Following the IPO, GMF together with Garuda are exploring the possibility of investment from one or more strategic investors in GMF. MRO business development in Indonesia and Asia Pacific region would begin in 2019 through a joint venture with several strategic partners.
2. Joint Ventures for International Routes in North Asia, Middle East, and Europe Development of Garuda Indonesia flight route network has now been built through Garuda's own routes and flight destinations, connectivity of SkyTeam flight alliance network members, as well as interline and codeshare cooperation with several airline partners. To reach potential routes that are not owned by Garuda Indonesia in North Asia, Middle East, and Europe, in 2019 Garuda Indonesia planned to establish a strategic partnership in the form of a joint venture with several partners in these areas.
3. Garuda Aviation Services Development of Garuda Indonesia Group's aviation services business that synergizes with each other (utilization of centralized resources/pool resources, creation of integrated aviation services - catering, ground handling, logistics, warehousing and others). 4. Cargo End to End Solution End-to-end cargo service solution is an integrated cargo service for customers, starting from the service of picking up goods at the pick up point then going to the airport (airport) to the destination.

In the short-term period, to support the implementation of the 2019 Work Program, Garuda Indonesia had set a number of Short-Term Strategies (Quick Wins) to be able to immediately improve its performance, which has been carried out with good progress in 2018 and will continue in 2019. Garuda Indonesia will focus on improving employee capability and capacity, increasing revenue and improving cost structures through shared service-based organizations, including centralization of procurement, in order to increase customer internal satisfaction which ultimately will result in increased external customer satisfaction. The increase in revenue is done through market expansion, improving products, changing the way of selling, closing leaks and inefficiencies, running Business Integrated Logistics (not just Cargo), and New Business related to the air transportation world.

By implementing these various strategies, the Company was able to provide good performance in 2019. Although the performance has not yet reached the target, nonetheless in the midst of the challenges faced by the Company, the Company's performance was not too far from the target. In 2019, operating revenue reached the target of 78.66%. Whereas Available Seat Kilometers (ASK) and Passenger carried reached 80.33% and 78.76%, respectively. Passenger yield successfully exceeded the target which reached 100.89% while Cargo carried reached the target of 70.94%.

Although the target has not been fully achieved, the Company's performance has improved from that of previous year. Operating revenues in 2019 reached USD4.57 billion, an increase of 5.59% compared to that of 2018 which reached USD4.33 billion. The increase in revenue was then followed by the increase profit/(loss) for the year 2019 which reached USD6.46 million, an increase of 102.82% compared to that of 2018 which recorded a loss of USD228.89 million.

Similar matter is also seen in terms of assets and equity. In 2019, the Company succeeded in increasing Assets and Equity. Assets in 2019 reached USD4.46 billion, an increase of 7.22% compared to that of 2018 which reached USD4.16 billion. Equity in 2019 reached USD720.62 million, an increase of 12.63% compared to that of 2018 which reached USD639.81 million. Achievement of performance in 2019 cannot be separated from how the Company overcomes the obstacles encountered. In addition to external challenges in the form of economic conditions that have an impact on the aviation industry, the Company also has internal constraints, such as employee capabilities and capacity, that still need to be improved. Therefore in 2019, Garuda Indonesia implemented a Corporate Culture Transformation strategy through the development of People, Process, & Technology. With such strategy, Garuda Indonesia focuses on improving employee capability and capacity, making employees Happy, because employees are customers and assets that must be prioritized. With Happy employees, the employees will naturally provide the best service to customers.

A cross-division turnover will be carried out to create a sense of care and an understanding of the overall business process. Garuda Indonesia employees are large families including

permanent and part-time employees, because all employees are One Family, One Nation, and One Garuda Indonesia.
Good and Happy people/employees will make a good business process as well. Furthermore, a good business process can certainly create a standardization and avoid reducing the quality of work of people/employees.
The two matters above (people and process) are closely related and their interactions shall be fast and accurate, therefore, Garuda Indonesia has developed a technology in the form of developing and providing systems that can facilitate decision making and simplify the business process in Garuda Indonesia's internal environment.
ANALYSIS OF BUSINESS PROSPECTS Although the Company faced many challenges in 2019, the Board of Directors remains optimistic about the Company's performance in the future. The global and national economic growth slowed down amid the Covid 19 pandemic. Moody's, an international rating agency, predicted that the impact of this pandemic would depress the economic growth of G20 countries, including Indonesia. Overall, Moody's revised the economic growth of G20 countries to 2.1% or 0.5% lower than the initial projection of 2.6%.
The economic projection of the Republic of Indonesia has fallen to 4.2% -4.6% from the previous 5.0% - 5.4%. In the midst of the Covid 19 pandemic, Indonesia's economic growth is predicted to be lower than in the previous periods. In the tourism sector, the increasingly massive spread of Covid 19 virus has resulted in a significant decline in domestic and international tourist visits. The tourism and hospitality industry suffered a loss of up to USD1.5 billion or equivalent to Rp21 trillion. This potential loss is calculated from estimates of Chinese tourists who usually spend USD1,100 in one trip to Indonesia. Bank Indonesia continues to strengthen coordination with the government and OJK to closely monitor the dynamics of Covid-19 spread and its impact on Indonesia from time to time. Post Covid-19, economic growth in 2021 is predicted to increase to 5.2-5.6%. The economic recovery will be influenced by the government's efforts to improve the investment climate through the Draft (RUU) of Omnibus Law on Employment and Taxation. This optimistic prediction along with opportunities in the aviation industry makes the Board of Directors confident that the Company's business prospects in the future will be relatively good. The potential market for airline passengers can be predicted from the composition of the number of Middle Class and Affluent Consumer (MAC) in a country. Based on a study conducted by Ernst and Young in May 2013, MAC population in a country's community is able to drive economic growth and become a potential source for a number of business people. Currently, the growth of the middle class or MAC population in Indonesia is happening on Java and Sumatra islands, with a potential total population of 141 million by 2020.
Market data and passenger traffic both domestically and internationally in 2020 shows an increasing trend. In 2020, the domestic passenger market is projected to grow by 4.3% while the international passenger market is projected to grow by 6.6%. Based on data from the Ministry of Transportation combined with data from Statistics Indonesia (BPS), in 2020-2030 the domestic market growth is predicted to be 5.7% while the international market is predicted to be 4.0%. The highest market growth in the period of 20202030 will occur in the service areas of China, Taiwan, and Hong Kong (CTH), which is 5.2%.
Based on these conditions, the Board of Directors is confident that future business prospects will be better. Various challenges and opportunities will be managed well by the Company. This is based on the following considerations:
1. Fleet Owned by Garuda Indonesia As per December 2019, the total fleet owned by Garuda Indonesia was 210 fleets, consisting of 105 narrow-body aircrafts and 37 wide-body aircrafts, and 68 aircrafts operate at Citilink with an average age of 7.54 years.
2. Support from Strategic Business Unit (SBU) and Subsidiaries In running its business, Garuda Indonesia is supported by SBU and its subsidiaries which consist of SBU Loyalty and Ancillary Revenue and Umrah and Hajj, as well as its subsidiaries in aviation and non-aviation fields. In aviation sector, Garuda Indonesia Group has Garuda Indonesia, GMF AeroAsia, and Citilink. In non-aviation sector, Garuda Indonesia Group has Aerowisata, Asyst, Sabre Travel Network Indonesia, and Garuda Indonesia Holiday France, which cooperate in order to support the development of Garuda Indonesia.
3. Domestic Brand Image of Garuda Indonesia As an airline group, Garuda Indonesia has a strong brand image in domestic market. Garuda Indonesia still has a positive image in its market segment. In 2019, Garuda Indonesia was named the best airline in Indonesia in "Trip Advisor 2019 Travelers Choice Awards" version, organized by Trip Advisor - the world's leading travel site.
Furthermore, Garuda Indonesia also made it to the achieve the rank of "The Best Regional Business Class Asia" and "Travelers Choice Major Airline Asia". The award was given based on the results of an official announcement by Trip Advisor on April 12, 2019, after completing a rating survey of the best airlines around the world.
In 2019, Garuda Indonesia became The Best on Time Performance (OTP) as a five-star airline with an OTP value of 91.6% in accordance with the official award given by the Official Airline Guide Flight View on June 27, 2019. Furthermore, Garuda, which is developing its cargo business, won the "The Best Cargo Airlines for Asia Pacific Sector" and "Finalist of Best Airlines for Europe Sector", which was awarded by the Indonesia Cargo Agent Club on August 14, 2019.
The award received by Garuda Indonesia shows that Garuda Indonesia brand is closely affiliated with service attributes, especially on Indonesian hospitality. This good image can be utilized by Garuda Indonesia Group to dominate the domestic market through Garuda Indonesia brand.
4. Services Quality of Garuda Indonesia's Cabin Crew Garuda Indonesia services have been promoting the hospitality of the cabin crew. By promoting Indonesian hospitality through the Garuda Indonesia Experience, Garuda Indonesia's cabin crew is reflected to be more sincere in serving the passengers. This spirit becomes Garuda Indonesia's strength and excellence. This is further evidenced by the World's Best Cabin Crew award given by Skytrax to Garuda Indonesia airlines for five years in a row, in 2014, 2015, 2016, 2017, 2018, and received second place in 2019.
5. Performance Improvement of Domestic Market Share Until December 2019, the Company succeeded in increasing the Group's domestic market share by 3.22% compared to 2018. In 2019, Garuda Indonesia domestically had a market share of 29.14% while Citilink of 13.26, thus in total, the Company had a domestic market share of 42.40%. This increase in domestic market share was in line with the increase in customer satisfaction with the services provided by the Company as a Group. This makes Garuda Indonesia Group an airline with the largest market share on routes flown in Indonesia.
Based on the considerations outlined above along with the various opportunities, Garuda Indonesia is optimistic that it can improve its performance in the long run. In other words, Garuda Indonesia has very good business prospects.
PROGRESS OF CORPORATE GOVERNANCE IMPLEMENTATION In implementing Good Corporate Governance (GCG) practices, the Company prioritizes the creation of added values and consistent improvements by ensuring the implementation of the five main GCG principles correctly and in accordance with the Corporate Governance Direction Map established by the Financial Services Authority (OJK) as well as global best practices. The implementation of transparency principle is realized by providing information in a timely, adequate, clear, accurate, and comparable manner, and is easily accessible by stakeholders in accordance with their rights.
Accountability is realized by setting the details of duties and responsibilities of each company organ and all employees that are clear and in line with the vision, missions, corporate values, and corporate strategy, as well as the determination of performance measures for all levels of the Company that are consistent with the Company's business targets and having a reward and punishment system. The Company is also committed to ensuring the certainty of an effective internal control system in managing the Company and every organ of the Company and all employees must adhere to the agreed code of conduct in performing their duties and responsibilities. In implementing the responsibility principle, the Company always strives to ensure certainty that all of the Company's organs adhere to the principles of prudence, laws and regulations, articles of association, and by-laws. The Company has also carried out social responsibilities including caring for the community and environmental sustainability, especially around the Company by preparing adequate planning and implementation.
The independence principle is fulfilled by trying to always ensure the certainty that each organ of the Company must avoid domination by any party, not affected by certain interests, free from conflicts of interest, and from any influence or pressure, so that decision making can be done objectively. The Company has also endeavored to ensure certainty that each organ of the Company has carried out its functions and duties in accordance with the articles of association and laws and regulations, is not dominating each other, and/or throwing responsibility between one another.
Regarding the implementation of principle of fairness and equality, the Company has provided opportunities for stakeholders to provide input and express opinions for the Company's interests and open access to information in accordance with the transparency principle in the scope of their respective positions. The Company has also provided equal and fair treatment to stakeholders in accordance with the benefits and contributions made to the Company. Regarding human resources management, the Company has provided equal opportunities in hiring employees, having career, and carrying out duties professionally regardless of ethnicity, religion, race, class, gender, and physical condition.
The year 2019 was part of the phase in which the Company implements the Strengthening of Good Corporate Governance. This phase is the strengthening phase of GCG implementation that has been carried out by the Company in accordance with the prepared roadmap. At this phase, the Company has sought to ensure the implementation of corporate GCG programs, ethical guidelines, and corporate governance policies to support the Company's achievement towards the implementation of corporate governance practices based on Company standards in ASEAN. In conducting this phase, the Company has adjusted the standards of public corporate governance based on the provisions of capital market authority, including disclosure in the annual report on the implementation of OJK recommendations in relation to public corporate governance.
The Company also consistently uses independent assessors to find out GCG best practices and to always follow up on the recommendations for implementing GCG from independent assessors. The GCG policy is reviewed and updated periodically by considering its suitability and relevance to the current conditions and applicable laws and regulations. The Company also publishes and disseminates policies on internal communication channels to strengthen the compliance culture and the application of ethical values and norms in all business units and operational activities.
The assessment and evaluation of GCG implementation by the Company is conducted by referring to the indicators and parameters in SK-16/S.MBU/2012. The implementation of the Company's GCG for the 2019 fiscal year was evaluated in 2020 by the Company on a self-assessment with the assistance of an independent assessor, who was appointed based on the procurement process applicable in the Company, which was PT Multi Utama Indojasa (MUC Consulting). Based on the evaluation results (review) of the Company's GCG implementation for the fiscal year ending on December 31, 2019, which were assisted by PT Multi Utama Indojasa (MUC Consulting), the Company obtained a score of 80.012 with the category of "Very Good".
However, the Company realizes that there are still weaknesses in realizing good corporate governance. Therefore, in the future, the Company will continue to improve the GCG implementation in all of its business units through several operational improvements to support the management of the Company in accordance with Good Corporate Governance. PERFORMANCE ASSESSMENT OF COMMITTEES UNDER THE BOARD OF DIRECTORS Until the end of 2019, Garuda Indonesia's Board of Directors did not have any Committee under the Board of Directors. CHANGES IN THE COMPOSITION OF BOARD OF DIRECTORS Throughout 2019, the composition of the Company's Board of Directors underwent several changes. Changes were made based on decision of the Minister of State-Owned Enterprises (BUMN) as the Dwiwarna Series A Shareholder of PT Garuda Indonesia (Persero) Tbk. Changes in the composition of the Board of Directors are as follows. COMPOSITION AND BASIS OF APPOINTMENT OF BOARD OF DIRECTORS FOR THE PERIOD OF JANUARY 1, - APRIL 24, 2019 The Composition of the Board of Directors for the period of January 1, - April 14, 2019, consisted of 8 (eight) members, which were 1 (one) President Director and 7 (seven) Directors. The composition and basis of appointment of the Board of Directors can be seen in the table

below: COMPOSITION AND BASIS OF APPOINTMENT OF BOARD OF DIRECTORS FOR THE PERIOD OF APRIL 24,- DECEMBER 5, 2019 Through the Annual GMS on April 24, 2019, the GMS dismissed Mr. I Wayan Susena as Director of Maintenance and Mr. Nicodemus Panarung Lampe as Director of Services in accordance with the decision of the Minister of State-Owned Enterprises (BUMN) as the Dwiwarna Series A Shareholder of PT Garuda Indonesia (Persero) Tbk. In addition, the GMS appointed Mr. Iwan Joeniarto as Director of Maintenance and Services. Therefore, the composition of the Board of Directors for the period of April 24, - December 5, 2019, consisted of 7 (seven) members, which were 1 (one) President Director and 6 (six) Directors. The composition and basis of appointment of the Board of Directors can be seen in the table below: COMPOSITION AND BASIS OF APPOINTMENT OF BOARD OF DIRECTORS FOR THE PERIOD OF DECEMBER 5,- DECEMBER 9, 2019 Based on the Decision Letter of Board of Commissioners No. DEKOM/SKEP/010/2019 dated 5 December 2019, Mr. I Gusti Ngurah Askhara Danadiputra as President Director was suspended by the Board of Commissioners in accordance to the decision of the Minister of State-Owned Enterprises (BUMN) as the Dwiwarna Series A Shareholder of PT Garuda Indonesia (Persero) Tbk. And Mr. Fuad Rizal was appointed as Acting President Director. Therefore, the composition of the Board of Directors for the period of December 5,- December 9, 2019 consisted of 6 (six) members, which were 1 (one) Director of Finance & Risk Management concurrently Acting President Director and 5 (five) Directors. The composition and basis of appointment of the Board of Directors can be seen in the table below: COMPOSITION AND BASIS OF APPOINTMENT OF BOARD OF DIRECTORS FOR THE PERIOD OF DECEMBER 9,- DECEMBER 31, 2019 Based on the Decision Letter of Board of Commissioners No. DEKOM/SKEP/012/2019, DEKOM/SKEP/013/2019, DEKOM/SKEP/014/2019 DEKOM/SKEP/015/2019 dated 9 December 2019, the Board of Commissioners suspended Mr. Mohammad Iqbal, Mr. Bambang Adisurya Angkasa, Mr. Heri Akhyar, and Mr. Iwan Joeniarto in accordance with the decision of the Minister of State-Owned Enterprises (BUMN) as the Dwiwarna Series A Shareholder of PT Garuda Indonesia (Persero) Tbk. Subsequently, the Board of Commissioners through the Decision Letter of Board of Commissioners No. DEKOM/SKEP/016/2019 on the Establishment of Acting Duties of Board of Directors of PT Garuda Indonesia (Persero) Tbk dated December 9, 2019, established Mr. Fuad Rizal as Acting President Director, Acting Director of Maintenance & Service, and Acting Director of Operations, and Mr. Pikri Ilham Kurniansyah as Acting Director of Human Capital and Acting Director of Cargo & Business Development.

Therefore, the composition of the Board of Directors for the period of December 9, - December 31, 2019 consisted of 2 (two) members, which were 1 (one) Director of Finance & Risk Management concurrently Acting President Director & CEO, Acting Director of Maintenance & Services, and Acting Director of Operation, and 1 (one) Director of Commercial concurrently Acting Director of Human Capital and Acting Director of Cargo & Business Development. The composition and basis of appointment of the Board of Directors can be seen in the table below: CLOSING Thus, we submit the management report of the Company in 2019. The Board of Directors would like to thank the trust given by the shareholders. To the Board of Commissioners, the Board of Directors would like to thank you for the supervision and advice given throughout 2019.

To all levels of management and employees, for their dedication, we extend our highest appreciation that the Company was able to face many challenges occurring in 2019. The Board of Directors on behalf of the Company also thank our partners for the good cooperation established throughout 2019.

To the future, the Board of Directors will remain committed to providing the best for the Company. Hopefully, Garuda Indonesia will become a superior performing airline and be the pride of the people of Indonesia.

Garuda Indonesia

I am pleased to report that 2018 was a good year for Kenya Airways. This marked a second consecutive year of improved financial performance and business growth which we have been working towards since 2017. We focused on expanding our network as part of the airline's growth strategy and as a result increasing the airline's capacity measured in Available Seat Kilometres (ASKs). The company smoothly transitioned from a 5-bank Network Structure to a 3-bank Network Structure in October 2018, consequently leading to improved passenger connectivity at the hub by approximately 30%. During the year, we also introduced a range of new innovative products and services aimed at meeting market demand and maintaining our competitive edge in the highly competitive industry. Despite the above achievements, the airline experienced several challenges such as volatility of fuel prices, intense competition

and employee unions' related challenges. I am however pleased to report that thanks to the airline's robust business planning, prompt actions in the face of crisis, passenger-focused solutions and dedicated staff, the company came out stronger and better than the previous year. Kenya Airways remains committed to sustaining this growth trajecto-ry, with continued focus on cost management, route network expansion and good industrial relations. PASSENGER GROWTH In 2018, Kenya Airways benefited from the positive trends in the country's Tourism Sector due to the good political environment. The airline recovered fully from the significant negative election impact attributed to the prolonged election period in 2017. Domestic traffic flows (Nairobi-Mombasa and Nairobi-Kisumu routes) also recovered and registered significant

growth in traffic. There was strong growth in traffic from and to Kenya from the various key markets in the network which saw our passenger numbers grow to 4.84 million. Overall, the airline achieved a cabin factor of 77.6 per cent. We look forward to enjoying the same environment, if not better, in 2019. In addition, Kenya Airways was once again recognised by the World Travel Award as Africa's Leading Airline in Business (for the 6th consecutive time) and Africa's Leading Airline in Economy Class (for the 2nd time). This is a true testament of the

support from our passengers and the dedication of our teams. REVENUE GROWTH Passenger Revenue In the 12-months period, passenger turnover stood at KShs. 95,187 million. Kenya Airways' performance during the year ended December 2018 was positive. Despite the increase in competition and overcapacity on most traffic flows, there was significant improvement in the airline's average fare. This was largely driven by growth in higher yielding traffic to and from

Kenya, increase in premium business class traffic and commercial efficiencies. Freight and Mail Revenue During the 12 months period ended December 2018, freight and mail turnover stood at KShs. 8.468 million, the good performance was attributed to a better product mix with growth of premium valuable cargo segment and marked improvement of the general cargo segment. Ancillary Revenue At the end of 2018 the airline made an important step in growing its ancillary footprint by introducing an enhanced number of extra seat propositions (extra legroom and preferred seat) and significantly growing its distribution scope to all relevant

direct booking channels. The group generated an additional Ksh. 8,338 million. Similarly the group generated handling revenues totalling Ksh 2,193 million. NETWORK EXPANSION As mentioned earlier, we opened new strategic routes as part of our growth strategy. During the year, four routes were launched beginning with Mauritius on 7th June operated on the E190,

New York on 28th October operated on the B788, Libreville in Gabon on 29th October operated on the E190, and Mogadishu launched on 18th December on the E145. In July and August

Kenya Airways operated additional flights to Amsterdam and Paris to leverage on high summer demand. The airline also added a direct flight to Cape Town, South Africa. Kenya Airways suspended online operations to Jeddah in Sep- tember with the intention of retaining network efficiency, opting to serve customers through existing partnerships. We will continue working towards efficient network planning including closure of unprofitable routes and launch of new pro- spective connections. New York Launch The launch of New York was one of the most visible and significant events in 2018. A well-structured plan of events was executed and fully rolled-out, which in turn culminated to the high-profile launch experience both nationally and internationally. The national event was flagged off by H.E. the President of the Republic of Kenya Uhuru Kenyatta and received by H.E. the Deputy President Dr. William Ruto. The below pictorial is a summary of some of the highlights of what transpired through

the year focusing on major corporate events. NYC JOURNEY JOINT VENTURE Kenya Airways continues to use partnerships to enhance its network strategy. In 2018, Air France joined the joint venture and together with KLM, the marketing team successfully carried campaigns enhancing awareness of the joint network, seamless connectivity and competitive pricing offered by the three airlines. Other key successes were establishment of a joint sales force in Rwanda with Kenya Airways fully representing AFKL in the market through an efficient organisation, competent people and one face in the market. Overall the Joint Venture with AFKL achieved strong passenger revenue, with an increase in capacity. INNOVATION AND PRODUCT On 1 August 2018, Kenya Airways launched a new catering service that focused on three pillars; African, Simplicity and Authentic. The Chef's programme was also introduced at the same time. This programme works with African chefs to develop menus that showcase exquisite fusions of culture with various local ingredients. Further, the airline continues to work closely with the caterers to ensure that at least over 90% of all the ingredients used in the preparation of all its meals onboard, are locally sourced to support the Buy Kenya, Build Kenya initiative. In the new catering product, a basket service with light snacks for flights shorter than one hour and a snack box service for flights from two to four hours were introduced. Business Class passengers on flights longer than seven hours can now enjoy a more personalised inflight meal with the introduction of a plated service. In addition, the airline introduced a signature welcome drink inspired by a tantalising combination of herbs and indige- nous fruits. The airline further rolled out BlueBiz, a joint corporate loyalty program with Air France and KLM. A key market in this respect is the airline's home market, Kenya, where BlueBiz will be an important program to further cement KQ's leadership role in the SME corporate market. FLEET DEVELOPMENT The company completed the sale of two aircraft as part of the KQ fleet rationalisation project. An early return of one B787-8 subleased from Oman was completed to support the airline's network expansion into the US. As part of the improved focus on the cabin product, the three 9-year-old B737-800 interiors were refurbished, and a portable wireless entertainment system installed. This coming year will see the return of KQ's 9th B787-8 from

Oman Air, as scheduled, to support the network expansion into Rome and Geneva. The airline is exploring the extension of the subleases of the three B777-300ER for a further period. COST Fuel Volatility The volatility of the fuel prices was the most prominent challenge during the year. Fuel alone takes up about 27% of Kenya Airways' total expenditure. The volatile fuel prices in 2018 impacted the delivery of the airline's fuel cost, consequently affecting its total costs. The price per barrel was on an upward trend from the beginning of 2018 with the Brent Crude prices peaking at a three year high of USD 86 per Barrel in October. The prices however reduced in the last two months of the year closing at a low of USD 49 per Barrel in December 2018. In order to mitigate the impact of the fuel price volatility, Kenya Airways implemented a fuel hedging policy. MARKET SHARE Competition Intense competition and growing presence of foreign state- backed carriers in the Kenya market reduced the airline's market share.

KQ's key competitors continued to grow capacity in the airline's key markets led by Ethiopian Airlines whose capacity is up by about 20% while Rwanda Air's capacity is up 22%. Emirates and Qatar also have grown their capacity into the market by 6% and 12% respectively. High operating costs such a landing fees, fuel, industrial action disruptions continue to impede KQ's competitiveness against these players as KQ receives no advantage from having JKIA as its hub, while these competitors are given preferential treat- ment in their home markets.

EMPLOYEES

Kenya Airways values an environment where people feel empowered and motivated. As at the end of this Financial Year 2018, Kenya Airways had a total headcount total of 4,763 staff employed across 39 countries. Permanent staff stood at 3,905 whereas contracted staff closed at 858. In the previous year 2017, permanent staff stood at 3,548 and contracted staff at 1,028. The increase in permanent staff of 10% is mainly attributed to the movement of staff from the outsourced labour providers into Kenya Airways in a bid to improve employee engagement and motivation. In 2019, we will initiate new engagement strategies to build motivation and alignment to our corporates objectives. Notwithstanding, we have been engaged in efforts

to harmonise trade union relations as misinformation leading to perceived mistrust continues to negatively affect the cordial relations with our employees. IN CONCLUSION Product and service excellence are crucial to the continued success of the Company, and as such the airline shall endeavour to create a recipe for success to further satisfy the needs and expectations of its passengers. KQ's commitment to review its Customer Excellence Program remains firm. 2018 saw the introduction of the new catering product as well as kick-starting of the airline's brand refresh. In 2019, the airline will see to it that the program is fully implemented. Managing the company's cashflow still remains the biggest yet attainable challenge, but the airline remains optimistic on bridging the gap as it moves forward. The growth of the airline's revenues is pegged on the expansion of its network. Network growth is only possible with additional
capacity. In 2019, the airline intends to further actualise its network expansion plan and possibly grow its fleet to remain competitive. Management is committed to building and establishing good industrial relations to amicably resolve any arising issues and in the best interest of all parties.

Kenya Airways

Preface This annual report on the 2019 results cannot be read without considering the subsequent events after year-end closing. The worldwide spreading of COVID-19 has caused a global crisis in terms of health, a global crisis in terms of business and severe crises in many societies. As an airline we are amongst the earliest to be faced directly with the impact of this crisis. During the course of the first three months of 2020, the outbreak of COVID-19 has developed into a pandemic on an unprecedented scale, striking an equally unprecedented blow to the airline industry on a global level. As a consequence, the KLM Group is facing one of the largest crisis in its entire history. It goes without saying that under normal circumstances it would have been a great pleasure to take the opportunity to share an overview of our ambitions and focus for 2020. Unfortunately, at the closing of the annual report, the crisis is still evolving, bringing many uncertainities, which makes it impossible to predict the scale of impact of the COVID-19 crisis on KLM and its future. KLM's ambitions and objectives for 2020 will be refocused with the utmost urgency on resiliently overcoming the COVID-19 crisis and on emerging in a position that will enable us to resume the intended pursuit of our strategic goals. When we formulated our ambition with the new KLM Executive Team in 2014, our goal was to ensure that KLM would be "healthy and fit for the next 100 years" when it would reach its centenary in 2019. After defining our ambition to become Europe's most customer centric, innovative and efficient network carrier, we re-determined our purpose in the KLM Compass and strengthened the execution of our strategy through our annual KLM Flight Plan from 2015 until 2019. I am proud to say that on the 7th of October 2019, the day KLM became the first airline in the industry to turn 100 years old, it is clear that because of the hard work of all KLM employees we have turned this ambition into reality. Because of the robust and mature state of our company, the
theme of our KLM 100 celebrations "Celebrating the future", rings true. KLM is ready for its next century. Proud of its history, committed to its future! The year 2019 marks the last year of our Perform 2020 program. Back in 2013 and 2014, our financial results were down, investments were laging behind and a general sense of discomfort was felt internally. Hence, from the third quarter of 2014, with a new Board of Managing Directors, we were at the crossroads of winning or losing. At the start of Perform 2020, in 2015, we did a strategic review and defined a clear set of strategic objectives, which are still valid today. The overall aim of creating structure and direction, was fourfold: (i) we needed to fund our investment agenda by lowering costs, (ii) our customer experience and appreciation needed to improve drastically, (iii) we needed to invest in our employees and organisation, to modernise the workforce, work processes and working tools and (iv) the overall financial position of the company needed to improve. In order to achieve these objectives, we captured our strategic choices in our Perform 2020 transformation
program and ensured structural progress monitoring. These past few years have been an incredible journey for everyone at KLM. We have made impressive progress on all of our objectives. Our investment levels have gone up, our customer appreciation has improved from mid-30's to above 40 (Network Promotor Score, NPS), productivity has increased, our employees are more satisfied than five years ago (Employee Promotor Score, EPS above 70) and working processes and -tools have been simplified and digitised. All of which has resulted in an increase of profit, a reduction of our debt and a strengthening our equity position. Because our financial position has improved we are able to better face economic headwinds and to share the profit among all KLM staff via a profit sharing scheme. We have achieved these changes over the course of five years because we have been persistent and not afraid to challenge ourselves.
This fits with our history as aviation pioneers. We have also delivered on most of our parameters in 2019. Due to Schiphol's capacity limitations, we could only grow by a very limited number of flights, yet we grew our destination portfolio. We were able to improve the quality of our operations and our product as well. We strengthened our commitment to sustainability tremendously with the launch of our global Fly Responsibly initiative, with the announcement of partnering in the development of a new sustainable aviation fuel plant in the Netherlands and with our support for the design of a radically different aircraft, Flying V. In parallel we maintained our position as a leader in digital customer- and employee processes and optimised our operational procedures with artificial intelligence supported tools. Our four businesses have improved as well. We welcomed over 35 million customers on board of our KLM flights and 44 million within the KLM Group. We managed to expand our global network with six new destinations, took delivery of 10 new aircraft, improved our operational resilience on disrupted days and grew the number of alliances. Transavia and KLM Cityhopper have modernised their fleet and services. Engineering & Maintenance has professionalised with an increase of its commercial work for third parties and the KLM Cargo division ventured into new customer segments to create new opportunities for growth. " KLM is ready for its next century. Proud of its history, committed to its future!" Within AIR FRANCE KLM, progress was made in different areas. Air France has made impressive steps both in operational quality as well as customer appreciation and the management gained support of the unions, which will help Air France in its ambitious turn-around program. With AIR FRANCE KLM we have expanded our existing Joint venturepartnerships to China with China Eastern and to North America with Virgin Atlantic. These extended partnerships strengthen our AIR FRANCE KLM position in the global arena. From the start of the COVID-19 crisis, the KLM Group has been monitoring its evolution by the hour and implemented measures to protect its passengers and staff, as well as to limit the impact of the virus on its profitability and to preserve its financial sustainability. In the course of the developments, decisions were necessary to reduce our flight schedule, currently by drastic proportions. The KLM Group has already taken a number of strong measures to secure cash, save cost and postpone payments as well as all kind of other measures in order to meet ongoing commitments during the COVID-19 crisis. The initial investment plan has strongly been reduced and additional financing with bank institutions is arranged for. In addition, the KLM Group announced to cease the operation of its entire Boeing 747 passenger fleet as per end March 2020, in order to reduce capacity and achieve operational savings. The KLM Group is in close contact with its stakeholders to secure continuation of its operations. The KLM Group is working together with AIR FRANCE KLM and Air France in conferring with the governments in the Netherlands and France to temporarily expand legal opportunities for additional financing, saving cash and postponing payments. Within the Netherlands, the government is demonstrating strong support and commitment to help KLM and other companies face the challenges. KLM is gratefully making use of the Dutch government's financial package that was announced mid-March. It goes without saying that KLM follows all governmental guidance and instructions with regard to people interactions and meticulously adheres to the actual guidance and instructions. At the end of a year we sometimes say: it has been an eventful year. This year has been a turbulent, yet spectacular year indeed. First of all I would like to express my gratitude towards our customers. It is the loyalty of the customers in our businesses, Passenger network, Cargo, our industrial customers at Engineering & Maintenance and Transavia passengers that has made KLM reach its centennial in sound health. Together with them we will navigate our flourishing company into a challenging future.
In October we had the pleasure of celebrating KLM's 100th anniversary together in a fantastic way. In the hangar at Schiphol Oost, but essentially across the entire world. I would like to thank all KLM staff: for their commitment, their energy, for their blue heart and for everything that we have done together to make us healthy and fit for our 100th birthday, to be able to celebrate this exceptional milestone and to prepare KLM for its next 100 years.

KLM Royal Dutch Airlines

Distinguished stakeholders, First of all, I would like to express my gratitude to all the stakeholders in our enterprise for your continued interest and support. Despite rising demand for air travel, the business environment in 2018 proved challenging due to fierce competition in the airline industry combined with rising oil prices and interest rates. Korean Air responded by launching a joint venture with Delta Air Lines and relocating to the newly-opened Incheon Airport Terminal 2. This contributed to the achievement of record-high sales of KRW 12.6555 trillion and KRW 667.4 billion in operating profit. This year marks the 50th anniversary of the establishment of Korean Air. We would like to take this opportunity to make a leap forward by further strengthening our business fundamentals. As uncertainties such as the future of interest rates and a sluggish domestic economy are expected to continue this year, we will establish a sustainable business structure targeting KRW 13.230 trillion in sales and KRW 1 trillion in operating profit while ensuring flawless operational safety. " Entrepreneurs are evaluated based not on how they made money, but on how they spent it in valuable ways. Profits made by companies must be returned to society." - Cho Choong-Hoon We are clearly aware that returning profits to society, contributing to local communities, and promoting transparent corporate governance all serve as driving forces for sustainable growth. As we have done over the past five decades, we will sustain our efforts at social contribution in reflection of the characteristics of the aviation industry and achieve shared growth with local communities. Social and environmental values will be considered when pursuing business growth. To this end, we will commit ourselves to minimizing greenhouse gas emissions by transitioning to eco-friendly and high-efficiency aircraft and by improving our fuel management process. Furthermore, we will ensure transparent and sound corporate governance and meet all social requirements. Distinguished stakeholders, We have been able to continue to grow over the last five decades thanks to your unwavering support. As we celebrate the 50th anniversary of Korean Air, 2019 will serve as an opportunity to prepare ourselves for building a company for the next 50 years. To this end, Korean Air and its 200,000 employees will do their utmost to promote the company's growth and development and raise its international profile. Thank you.

Korean Air

Lebanon's men mirror the scientific and cultural dimension of their country. Its free economic model. Its people, open and hardworking. Its tolerant and magnificent capital Beirut. Its generous mountains. Its fertile Bekaa Valley. Its resistant South. Its patient North. Its excellent universities. Its brilliant hospitals. Its captivating and attractive banking system. Its welcoming airport. Its pioneering national airline.
For every one of those reasons and for much more, Riad Salamé was meant to become governor of the Central Bank.
Twenty-five years have gone by with that patient man leading our Lebanese monetary empire. He has broken all records and received all types of titles, posts, honors and salaries. A brilliant man. An architect of our present and our future. It is thanks to his efforts that we still have an unshakeable faith in our Lebanese pound, our banking system and, most importantly, our Lebanon.
A faith so solid that no Israeli aggression, no perpetrated attack, no endless political jolt, no economic crisis (some of which were said to lead us to a catastrophe) could ever defeat it. Every time, we would overcome all these difficulties in the smoothest, most inexpensive way there ever was.
The Central Bank used all the means at its disposal: interests, interventions, financial engineering. And, most of all, there was always the public and world's trust and faith in Riad Salamé He is an institutional man like no other. Brave, calm, stable, competent, independent and not at all pretentious. He has the gift to address all generations, the youth and

the elderly.
Twenty-five years by the side of Middle East Airlines and by the side of every Lebanese out there, whether living in Lebanon or abroad. It is a lifetime, a one-of-a-kind experience. Difficult missions were met with unexpected achievements

Middle East Airlines

In 2018, Vietnam Airlines continues to affirm our leading position as the flag carrier with remarkable achievements. Revenues and profits reached record levels, marking the best results for Vietnam Airlines in nearly 25 years of operation. Dear valued Shareholders, On behalf of the Board of Directors and the Board of Management of Vietnam Airlines, we would like to extend our warmest greetings and express our sincerest gratitude to the shareholders for your trust and support of Vietnam Airlines, the flag carrier of Vietnam. In 2018, Vietnam Airlines continues to affirm our leading position as the flag carrier with remarkable achievements. Revenues and profits reached record levels, marking the best results for Vietnam Airlines in nearly 25 years of operation. Last year, despite several challenges in the business environment, such as rising fuel costs, overloaded domestic airports and uncertainties in some regions of the world, Vietnam Airlines worked to ensure safety and aviation security while maintaining operational efficiency with a high On-Time Performance (OTP) that exceeded the targeted departure and arrival ratios of 89% and 82%, respectively. In 2018, Vietnam Airlines successfully delivered more than141,000 flights and carried 22 million passengers. The consolidated revenue of the Group reached a record high of VND98,950 billion, exceeding our target by 1.9%. Through operational strategy adjustment and efficient balancing of resources, Vietnam Airlines achieved a record high consolidated pre-tax profit of VND3,312 billion, exceeding the target by 36.8%. The parent company contributed VND73,227 billion in revenue and VND2,418 billion in pre-tax profit, exceeding the target set by the Annual General Meeting of Shareholders by 23.4%. The robust business performance has resulted in a positive and sound financial position. The return on equity (ROE) ratio was 12%,the debt to equity (D/E) ratio and liquidity continued to rapidly improve. Vietnam Airlines shares have maintained a stable momentum on the stock market. Our HVN stock is one of thestocks with the highest liquidity, ata market capitalization ofnearly USD2.6 billion. In 2018, we continued to expand our fleet with the addition of two wide-body Airbus A350-900 and three narrow-body Airbus A321neo aircraft - the new generation of aircrafts featuring fuel-efficient engines which help reduce emission and increase operational efficiency. We also focus on raising the quality of services associated with cultural promotion through cooperative programs with Global Cuisine Ambassador Luke Nguyen. The “Four seasons of fruit – Four seasons of love” program served distinctive seasonal fruits, which helps to enrich customer experience and promote Vietnam’s renowned agricultural products to the world. We have earned a great number of accolades from both inside and outside the country with numerous prestigious prizes, thanks to our effort in self-improvement and enhancing Vietnam Airlines brand. Skytrax – the prestigious international air transport rating organization –certified Vietnam Airlines as a 4-star international airline for the third consecutive year. Vietnam Airlines also moved up one place in the Brand Finance’s ranking of the Top 10 most valuable brands in Vietnam, at a value of USD416 million. Along with the trust and support from our shareholders and customers, these achievements and awards are a testament to the corporate values and development potential of Vietnam Airlines.
Dear valued shareholders, 2019 will be a year full of opportunities and growth but also challenges, with the motto "Responsibility - Proactiveness - Creativity". By thoroughly assessing the business environment and balancing resources efficiently, Vietnam Airlines has developed an action plan containing various changes to bolster the quality of 4-star service and move towards 5-star status of the world aviation industry, while meeting the expectations of shareholders. To reach our development goals, in 2019 the Board of Management of Vietnam Airlines will implement a restructuring scheme to improve the efficiency of the Company’s operations on the model of a modern, top-tier airline in the region. The plan includes restructuring financial ownership; reviewing and reorganizing the organizational structure; and deploying our fleet development plan for the 2021 – 2025 period. We also outline our vision to 2030 with an orientation towards investing in new-generation narrowbody aircraft to serve domestic and Asian routes. Along with that, Vietnam Airlines will continue perfecting our products and implement the “Dual Brand” with JPA to be responsive to market demands and affirming service quality and Vietnam Airlines brand.
In 2019, Vietnam Airlines will receive our 14th Airbus A350900 aircraft, marking the completion of the Company's wide-body fleet. This confirms our leading position as the only domestic airline to own an entire “super fleet" of the most modern aircraft in the world, an advantage that delivers tremendous operational efficiency. Information technology 4.0 will also be promoted and applied to our operations, commercial and service activities to embark on the global trend of Digital Airlines. In addition to extensive investments in technology, Vietnam Airlines attaches great importance to human resources in the comprehensive development of the whole Company, promoting supervision for enhancing professional skills and improving productivity. The Board of Directors also actively monitors the quality of capital management in subsidiaries to ensure the development objectives and profit plan of Vietnam Airlines. Vietnam Airlines has completed the legal procedures for listing on the Ho Chi Minh Stock Exchange (HoSE) - Vietnam's largest stock exchange. The listing transfer to HoSE will open new opportunities for Vietnam Airlines to improve our reputation, information transparency, stock liquidity and access to new sources of investment capital. With unwavering effort to maintain and improve operational efficiency towards our goals of Safety - Quality - Efficiency, together with the support of shareholders and the solidarity, dedication and professionalism of our employees, the Board of Directors and the Board of Management of Vietnam Airlines believe that we will fulfil the 2019 objectives with great success. The achievements of 2019 will be an important prerequisite for Vietnam Airlines to step firmly into the new development stage of 2020 – 2025. Vietnam Airlines will continue to "Reach Further" as we strive to become the favourite airline for the region and the world.

Vietnam Airlines

This report has been prepared in accordance with article 43a, article 107A and article 43bb (paragraph 1 - cases c & d) of Law 2190/1920 and article 4 of Law 3556/2007 and the Hellenic’s Capital Market Board of Directors’ resolutions and contains financial and non-financial information of the company “AEGEAN AIRLINES S.A.” (hereinafter called the «Company») and its subsidiary companies Olympic Air S.A. and Aegean Cyprus Limited (hereinafter called the «Group», jointly with the Company). It aims to provide an overview to the shareholders and investors of the Company’s general course, financial position and results for the period (01/01/2017 – 31/12/2017) as well as highlight major events that occurred during the period and their impact on the annual financial statements. There is also a description of the main risks and uncertainties which the Group is currently facing or may face in the foreseeable future and finally a disclosure of material transactions between the Group and its related parties.
I. DESCRIPTION OF BUSINESS MODEL
The Group provides high quality services of air transportation for passengers and cargo with domestic and international, scheduled & non-scheduled flights, in short & medium-haul range with top priority passengers’ and crew’s safety.
Responsible operation The Group, since its establishment, has strategically decided to responsibly cooperate with all the stakeholders that may be affected by its decisions and operations. In this context, it applies systematically a series of actions aiming to:
• Operate with respect to the environment, the passengers, the employees, the local communities, the suppliers and the government authorities in accordance with the current Legal and Regulatory framework (in national and international level); • Promote the cultural heritage of Greece; • Promote Greek tourism; • Support education; • Promote and support sport activities.
Priorities The Group’s strategic priority continues to be the investment in extroversion and the increased connectivity from the bases that is operating. Taking into consideration the economic challenges and the ongoing increased international competition, the company has set a series of priorities:
• Strengthen connectivity at domestic and international level; • Streamlining of actions in order to improve passengers’ services, further development and exploitation of the loyalty programs & launching of new innovative services; • Further enhancement of employees’ satisfaction and their active participation in submitting ideas for improvement and implementation of corporate processes and decisions.
Core values Group’s main goal is to create satisfied and loyal customers and represent the bright side of Greece internationally. It aims to provide high inflight quality & digital services in order to offer an overall experience of a pleasant and comfortable journey.
The Group adopts the approach of “continuous development - high quality service - reliability” by placing emphasis on the following:
• Passenger oriented philosophy; • Focus on the high quality offered products and services; • Investment in innovation and continuous improvement; • Contribution to improvement of the Greek tourism; • Care for the community needs and the needs of vulnerable social groups; • Operate with responsibility towards the environment, the employees, the passengers, the regional communities and the suppliers.
II. FINANCIAL REVIEW, BUSINESS DEVELOPMENTS AND MAJOR EVENTS FOR 2018
During 2018, Greek economy rebounded following its deep economic recession. Greece has been integrated into the European Semester for economic policy coordination following the completion of the ESM stability support programme for the period 2019-2022. Enhanced surveillance provides a comprehensive framework for monitoring economic developments and the pursuit of policies needed to ensure a sustainable economic recovery. A new framework for the period 2020-2023 is expected during the next couple of months.
The Economic Sentiment Indicator (ESI) rose by 4 points at 102.7, compared to 96.8 in 2017. Moreover, the average Consumer Price Index for the period of January 2018 – December 2018 increased by 0.6% compared to the respective index for the period of January 2017 – December 2017. The unemployment seasonally adjusted rate stood at 18.0% against 20.8% in December 2017. Finally, according to the preliminary estimate of the Hellenic Statistical Authority, GDP rose to €190.8 bil, an increase of 1.9% compared to previous year.
Moody’s upgraded Greece’s sovereign credit rating by two notches (to B1 from B3). In addition, the country managed to issue successfully a 10-year bond.
2018 was a year with strong traffic growth and with total passenger traffic rising by 10%, in all Greek airports. According to the HCAA statistics (total departures / arrivals), domestic traffic grew by 5% while international traffic increased by 12%. As a result, market’s average annual growth rate for the past five years (2013-2018) stood at 10.5%. Key driver for both international and domestic traffic increase has been the growth in incoming tourist flow.
Competing airlines significantly increased at a higher pace their capacity by 15% to 17% on average to Greece on international routes, compared to the previous years. Moreover, five new carriers were active in the domestic market, operating domestic flights and covering the majority of the Group’s network. More specifically, two low cost carriers, Ryanair and Volotea, and local regional carriers Ellinair, Sky Express and Astra, operated domestic routes mainly during summer season of 2019 and continued at a slower pace during winter season as well.
Athens Airport market traffic reached 24.14 million, an increase of 11% compared to 2017, as a result of the 14% international traffic growth and the 6% domestic passenger growth. Domestic network was positively affected by the significant increase in domestic passengers (transfer passengers) and the lower fares as a result of the increase in total offered capacity by airline companies.
Passenger traffic to/from Thessaloniki airport increased by 12%, although Kavala airport (+23%) was used as a substitute to Thessaloniki airport for a large period of time during 2018. Heraklion (+7%) and Corfu (156%) airports also managed to increase traffic numbers.

The Group reported a 6% growth in passenger traffic, despite the increased competition, by operating 1% more flights and offering 5% more available seats. Operating improvement and higher load factor positively were influenced by network's maturity and synergy flows among our bases, brand awareness and efficient revenue management through regular offers. Hence, traffic growth outpaced available seat capacity growth.
Total traffic reached 14m passengers, 6% higher than 2017. International traffic, our key growth driver, reached 7.8m passengers, 7% higher than 2017 while domestic traffic increased by 4% to 6.1m passengers. Load factor reached 83.9% from 83.2% in 2017 as a result of efficient network management.
External factors that affected Group's financial results were the significant increase in oil prices although partially mitigated by the fuel hedging policy and the negative impact of the cost on the carbon dioxide emissions. On the contrary, the effect of the EUR / USD exchange rate had positive effect.
In 2018 the fleet comprised of 49 aircrafts of the Airbus A320 family (A319, A320, A321), 12 Turboprop aircrafts and one Learjet 60.
Group key operating and financial highlights for 2018 were as follows:
• Total offered capacity increased by 4% in ASKs compared to 2017 due to the higher use of jet aircraft versus turboprop aircraft; • Total number of passengers for 2018 was 14 million, increased by 5.7% compared to 2017; • Total flights for the Group were 109.825 increased by 1% compared to 2017; • Load factor increased by 0.7 percentage points, reaching 83.9% (2017: 83.2%); • Total Group Revenue for 2018 reached €1.187,4 million from €1.127,6 million in 2017, an increase of 5%; • Fuel cost reached €245.6 million from €204.5 million in 2017; • Earnings before Interest, Tax, Depreciation and Amortization and Rents (EBITDAR) stood at €245.2 million from €257.3 million in 2017. The decrease was mainly driven by the rise in oil prices which effected operating profitability; • Aircraft lease costs amounted to €133.6 million from €137.5 million in 2017; • Earnings before Interest, Tax and Depreciation and Amortization (EBITDA) amounted to €111.4 million from €119.8 million in 2017; • Earnings Before Tax (EBT) were €98.6 million from €85.8 million in 2017; • Cash inflows from operating activities were €86.4 million from €126 million in 2017; • The healthy balance sheet structure was maintained, with zero bank debt and liabilities from financial leasing contracts amounting to €22.9 million, while cash and cash equivalents (€261.3 million), restricted cash (€10.4 million) along with the financial assets available for sale (€18.5 million) amounted to €290.2 million.
Prospects, key risks and uncertainties 2018 was a year that Greek tourism set a new all-time record in total international visitors number. At the same time, economic sentiment in the country was improved as a result of third's Economic Adjustment Program completion and the issuance of a 10-year bond, reflecting the improvements in fiscal adjustment and improved markets confidence.
Market performance in the sector for 2019 is expected to be flat overall, with a moderately positive trend in Athens and marginally negative for regions. Based on slot requests and the available published capacity, total capacity offered for Athens seems to be at levels of 5 to 6% increase while capacity to the regional airports seems to be at levels of 3 to 5% lower than the previous years.
Forward looking a key domestic factor that may affect the expectations for the sector is the upcoming elections in Greece. In international area the effects of the protective trade policy in the United States and the consequences of the UK exit from the European Union are putting pressure on the upward trend of the economic environment.
Despite the possible negative impact of the external factors, Athens' traffic develops positively as the city gradually gains in preference as a tourism destination while hub flows to the islands are also increased. A positive sign for the Group is the fact that in Athens, competing airlines seem to increase activity for the summer season by only one third of the relevant pace of growth recorded in the previous years. Group's financial performance and key performance indicators for the domestic market continue to be affected by low yields and the disproportionally high airport charges and taxes.
Given the above challenges, the Group has set the following priorities:
• Add new international destinations, increase frequencies to traditional destinations and improve our network efficiency from our Athens hub where the Group sees most of the growth potential and competitive advantages;
• Increase charter flights from Greek regional airports while in the same time decrease relevant activity in scheduled flights; • Maintain high level of inflight service, Group's main competitive advantage; • Further increase of the ancillary revenues per passenger from the unbundling of additional services offering more options to the passengers, targeting increased sales of third parties' services and further initiatives and innovative services; • Continuous development of Group's loyalty program to maximize the benefits provided to passengers; • Maintain competitive cost structure by reducing aircraft operating costs; • Reduce energy footprint and implement Group's environmental policy;
Selected Financial Ratios and Operational Performance Indicators In this section, Group presents certain Alternative Performance Measures on the basis of the ESMA Guidelines on Alternative Performance Measures dated 5/10/2015, in addition to the International Financial Reporting Standards "IFRS" that are based on its financial statements.
Key profitability indicators are presented such as "Earnings before interest, taxes, depreciation, and amortization" (EBITDA) and "Earnings before Interest, Taxes, Depreciation, Amortization and Restructuring or Rent Costs" (EBITDAR).
The Alternative Performance Measures must not substitute other key measures that have been calculated in accordance with IFRS or any other historical financial ratios.
The Group defines the EBITDA measure as the Earnings before taxes, interest and depreciation and the EBITDAR measure as Earnings before taxes, interest, depreciation and Aircraft & spare engines leasing payments.
(amounts in € thousands) 31.12.2018 31.12.2017 Profit before taxes (a) 98.636,33 85.784,92 Depreciation (b) 18.694,88 19.402,96 Financial income (c) 23.138,08 21.252,60 Financial expenses (d) 17.186,34 35.868,52 Earnings before taxes, interest and depreciation (EBITDA) (e) = (a) + (b) - (c) + (d) 111.379,47 119.803,82 Aircraft & spare engines leasing (f) 133.561,03 137.468,02 Earnings before taxes, interest amortization and Aircraft & spare engines leasing (EBITDAR) (g) = (f) + (e) 244.940,50 257.271,84 Revenue from contracts with customers (A) 1.187.439,55 1.127.625,32 EBITDA margin = (e)/(A) 9,3% 10,6% EBITDAR margin = (ζ)/(A) 20,6% 22,8%

The following table includes the Alternative Performance Measures (APMs) calculated on the basis of the consolidated financial statements for fiscal years 2018 and 2017. Group presents key performance indicators RASK (Revenue per Available Seat Kilometer), CASK (Cost per Available Seat Kilometer) and Passenger Yield which are used internationally in the field of air transport.
The following table includes the indicators RASK, CASK and Passenger Yield calculated on the basis of Group's consolidated financial statements for fiscal years 2018 and 2017. (Amounts in thousands of €, unless noted otherwise) 01.01 – 31.12.2018 01.01 – 31.12.2017 Revenue from contracts with customers (a) 1.187.439,55 1.127.625,32 Other operating income (b) 17.454,53 13.966,14 Total income (a+b) 1.204.894,08 1.141.591,46 ASK (Total Available Seat Kilometers in millions) (c) 17.245 16.657 RPK (Total Revenue Passenger Kilometers in millions) (d) 14.435 13.851 RASK (in € cents) ((a)+(b))/(c) 7,0 6,9 Passenger Yield (in € cents) ((a)+(b))/(d) 8,3 8,2 Personnel expenses (e) 129.964,57 124.985,08 Depreciation (f) 18.694,88 19.402,96 Consumption of goods and services (g) 963.550,03 896.802,56 Financial income (h) 23.138,08 21.252,60 Financial expenses (i) 17.186,34 35.868,52 Total expenses (e)+(f)+(g)-(h)+(i) 1.106.257,74 1.055.806,52 CASK (in € cents) ((e)+(f)+(g)-(h)+(i))/c 6,4 6,3 Aircraft fuel (j) 245.620,30 204.467,20 CASK excluding the fuel cost (in € cents) ((e)+(f)+(g)-(h)+(i)-(j))/c 5,0 5,1 Load Factor1 83,9% 83,2%
1 It is calculated as the passenger kilometers (RPK) to the available seat kilometers (ASK) for scheduled flights. RPK's is the number of revenues passengers carried multiplied by the distance flown in kilimeters.
The calculation method of the above indicators is set out below:
RASK (Revenue per Available Seat Kilometer or Average Revenue per Seat Kilometer)
It is calculated as the ratio of the total revenue to the total available seats multiplied by the total kilometers covered.
CASK (Cost per Available Seat Kilometer)
It is calculated as the ratio of the total expenses to the total available seats multiplied by the total kilometers covered.
CASK (Cost per Available Seat Kilometer) excluding fuel cost
It is calculated as the ratio of the total expenses minus the fuel cost to the total available seats multiplied by the total kilometers covered.
Passenger Yield It is calculated as the ratio total revenue to total passengers multiplied by the total kilometers covered.
try and managed to increase total number of passengers transferred and record a higher yield factor.
RASK indicator increased to 7.0 euro cents compared to 6.9 euro cents in 2017 while Passenger Yield indicator increased to 8.3 euro cents compared to 8.2 euro cents in 2017, as a result of the increase in other revenues from the new services and products offered.
In 2018, ASK's increased by 3.5% compared to 2017, due to Company's effective plan to increase total capacity in a prudent way mainly through the creation of efficient network synergies among the Athens and peripheral bases, in light to the fleet renewal planned next year.
As a result of the successful commercial planning and network's management, Load factor increased significantly over the last years. In 2018 load factor increased to 83.9% compared to 83.2% in 2017, reflecting the efficient management of our network and fares.
EBITDAR stood at € 244.940,50 thousand in 2018 compared to €257.271,84 thousand in 2017, decreasing by 4.8% as a result of the significant rise in oil prices by 34% on average compared to 2017, affecting negatively the financial results and the operational profitability, despite the hedging policies and the positive effect of the exchange rate of EUR to USD. More specifically, Fuel cost amounted to €245.620,30 thousand in 2018 compared to €204.467,20 thousand in 2017. Finally, aircraft maintenance expenses and employee benefits also increased. Aircraft and spare engines leasing cost decreased by 2.8% compared to 2017, mainly due to the appreciation of the EUR against the USD.
EBITDA were €111.379,47 thousand compared to €119.803,82 million in 2017, decreasing by 7,6%.
The RASK indicator increased by 1.4% compared to 2017, mainly due to the increase in the average fares. Respectively, the CASK indicator (EBT level) increased by 1.6% compared to 2017, mainly due to the rise in the cost of fuel. CASK indicator (EBT level excluding the fuel cost) decreased by 2%, as a result of the decrease in the distribution and Aircraft & spare engines leasing.
Subsequent Events In March 2019, the Group announced the issuance of a €200 million Common Bond Loan due in 2026. The final yield has been set at 3.60.
Total capital raised (net of related expenses) shall be used by the Company as follows:
a) 75% of the issue i.e. circa €147.1m, shall be used to finance part of the scheduled aircraft pre-delivery payments, pursuant to the Purchase Agreement signed with Airbus on June 22, 2018 for the delivery of 30 A/C of the A320neo family;
b) 14% of the issue, i.e. circa €27.5m, shall be used to finance part of the investment in new training facilities and offices at Athens International Airport;
c) 11% of the issue, i.e. circa €21.6m shall be used to finance working capital needs of the Company.
On 14 February 2019, the Company has signed operating lease agreements for 2 new A321-200neo aircrafts with scheduled deliveries in May and June 2020 and 4 new A320-200neo aircrafts with scheduled deliveries in January, March, April and May 2021. The Company also signed an agreement for a 3-year lease extension for 5 aircrafts. (Note 5.28).
III. RISKS AND RISK MANAGEMENT

Foreign exchange risk The Company incurs a substantial portion of its expenses, such as aviation fuel, aircraft lease expenses, distribution costs, spare parts, maintenance expenses and aviation insurance premiums in U.S. dollars, whereas it generates most of its revenue in euro. Appreciation of the Euro versus the U.S. dollar positively impacts operating profit as the euro equivalent of the U.S. dollar operating expenses decreases, while depreciation of the euro versus the U.S. dollar negatively impacts the Group's operating profit. Despite the foreign exchange risk hedging policies, substantially adverse movements of the U.S. dollar could potentially have a material negative impact on the business activity, the financial status and the operating results of the Group.

At 31 December 2018 the company has entered into agreements to hedge the 59% of its estimated annual US dollar needs for 2019, 6% of estimated needs for 2020, 4% of estimated needs for 2021 and 2% of estimated needs for 2022. At 31 December 2017 the company has entered into agreements to hedge the 58% of its estimated annual US dollar needs for 2018, 21% of estimated needs for 2019.

Cover levels are monitored and reviewed on an ongoing basis considering market developments and the overall needs of the business..

Interest rate risk The Group is exposed to interest rate fluctuations risk through its bank deposits as well as through the aircraft finance leases agreed on a floating interest rate. The Group's policy is to continuously monitor its exposure to cash flow risk from interest rate fluctuations relating to its aircraft finance leases. Additionally, the Group has adopted hedging policies against interest rate risk related to finance leases.

At 31 December 2018 the Group has adopted a policy of hedging to cover its interest rate risk at 35% (31/12/2017: 40%) of the total liabilities of the finance leases.

Jet fuel risk The Group is exposed to the fluctuations of oil price which has a direct impact on the jet fuel price. To manage this risk, the Group enters into derivative contracts on oil products to hedge specific percentages of its projected jet fuel needs. At 31 December 2018 the Group had futures contracts for the purchase of aircraft fuel covering 71% of the projected fuel needs for 2019 and 20% of estimated needs for 2020.

At 31 December 2017 the Group had futures contracts for the purchase of aircraft fuel of 226,5 thousand metric tons, covering 58% of the projected fuel needs for 2018 and 1% of estimated needs for 2019.

Credit risk The Group monitors its trading receivables on a regular basis, to be protected against credit risk, and whenever needed, it assesses their timely collection mainly through factoring. This risk in the current circumstances has not increased in relation to the past.

Liquidity/Cash flow risk The prudent management of liquidity risk supposes sufficient cash balances. The Company manages the risk by maintaining adequate liquid securities and sufficient credit lines from the suppliers, always align to its operational, investment and financial needs.

Related Parties' Transactions The Company's transactions with related parties during 2017 were under usual commercial terms and they remained at the same levels with the previous period.

The most significant transactions of the Company with related parties, according to IAS 24, appear on the following table:

B. ANNUAL REPORT OF THE BOARD OF DIRECTORS RISKS AND RISK MANAGEMENT

2018 - amounts in thousands of € Revenue Expenses Receivables Liabilities Olympic Air S.A. 95.449,45 245.730,33 14.587,60 Autohellas Hertz Group 1.256,58 1.907,60 211,16 306,38 Other related parties 234,04 888,77 25,31 153,26

2017 - amounts in thousands of € Revenue Expenses Receivables Liabilities Olympic Air S.A. 43.702,13 184.949,73 9.658,09 Autohellas Hertz Group 1.181,08 1.780,48 120,81 193,76 Other related parties 198,24 625,20 59,55 122,93

The Group directors and Board of Directors' members remuneration for the period 1/1-31/12/2018 was €4.885,80 thousand, while the relevant amount for the Group was €5.017,96. As of 31/12/2018 the obligations towards the Group Directors were €936,33 thousand while there were no receivables from the Directors or the Board of Directors members neither for the Company nor for the Group.

Respectively, for the period 1/1-31/12/2017 was €5.756,19 thousand, while the relevant amount for the Group was €5.962,31 thousand. As of 31/12/2017 the obligations towards the Group Directors were € 936,33 thousand while there were no receivables from the Directors or the Board of Directors members neither for the Company nor for the Group.

IV. NON FINANCIAL DATA

LABOR & HUMAN RIGHTS

Main risks/effects The Group acknowledges that its human resources represent one of the core values of its business operation.

Having highlighted and evaluated the main labor issues as well as issues of human rights' respect related to operation, the company has set as priority and manages intensively the impacts of the following topics:

• Education and training; • Health and safety at work; • Human rights at work.

Corporate policies

Education and training The Group, in the context of human resources development, provides educational and training options with positive impact to all employees' levels. The investment in employees' skills and capabilities development continues to grow within the years by placing special focus on their active participation within the Company's business thinking and decisions.

Health and safety at work The management guarantees and commits to the protection and assurance of employees' and stakeholders' health and safety as per the Health and Safety Policy. Through this commitment, the company does not only have as a requirement to be fully compliant to the current legislation but also it adopts the best practices and is continuously progressing its performance as well as it adopts practices in order to educate its employees to become aware of the health and safety issues.

The company implements a certified system of Health and Safety management (standard OHSAS 18001:2007), assuring that all necessary Health and Safety measures are applied to all business extend. The Company's activities are:

• Investigation and implementation of safety means and measures; • Continuous observation of corporate events to identify potential risks and take the right actions; • Implementation of investigation projects and prevention medicine for all staff; • Establishment and training of first aid teams; • Conduct of specialized educational programs and create awareness related to Health and Safety issues, promote the mentality of accident prevention and of a safe working environment.

Human rights at work Acknowledging the importance of human resources, the company continuously works towards the direction of the right development and deployment of employees. Group's recruitment process as well as the preservation of specialized staff is aligned to equal rights and human rights principles, diversity rights and equal opportunities for all employees as well as the right for union representation and the avoidance of use of child labor or obligatory labor.

The human rights protection plays a fundamental role to the employees training, as well at the training of stakeholders such as handling providers related to safety issues and travel documents control.

Training takes place having as main driver the equal treatment for each passenger and avoidance of racist behaviors.

A very important part of the training is the verification of travel documentation so as to prevent events of illegal passengers' transportation and mostly illegal child transportation and people traveling without their willingness in case of hostageship.

Results of the above policies and non- financial performance indices

• 2.856 trainings, amounting to 46.351 hours took place inside and outside the company in 2018. • Trainings of Aegean pilots in corporate with Hellenic Air Force on aircraft handling in unusual situations • No fatal incident. • 29 accidents, of which 22 occurred at the workplace and 7 from and to the workplace. • No events of illegal child labor or obligatory labor • Rejection of more than 10.300 cases of passengers' transportation with invalid travel documentation.

ENVIRONMENT

Main risks/effects Respect for the environment is a key priority for the company. Environment is a collection of high value sources and is directly linked to the quality of life and respect for human being. Having recognized and evaluated the main environmental issues related to its operation, Aegean has prioritized and intensively focus on management of the effects of the following issues:

• Energy consumption and Greenhouse Gas emission • Proper waste management.

Corporate policies The Company has established the Environmental Department to promote environmental protection and reduce the operation's impact on environment through continuous training and controlling. The Environmental department cooperates with local authorities and communities of Greek and international airports for all the environmental issues.

All policies and legislation of EU and Greece related to the protection of the environment and waste management are being inspected and incorporated in Aegean's processes and business plan. Our policy is not limited to the adoption of the appropriate and optimal "green" practices but also extends to actions to create awareness to passengers and employees and gain support from environmental or ganizations. Environmental compliance and performance of Aegean is certified by ISO standards (ISO14001:2004). Some series of actions are:

• Reduce of energy consumption within the Group • Adopt practices recommended by International Organizations, the aircraft manufacturer and the airline industry • Reduction of aircraft noise • Proper waste management control • Optimal practices for minimization of fuel consumption.

Results of the above policies and non - financial performance indices The actions implemented resulted in:

Reduction of energy consumption at the technical base (204 Gj less compared to 2017). Reduction of gas consumption at the technical base (385 Gj less compared to 2017). Reduction of fuel consumption up to 3% through investment in new aircraft A320 CEO with "Sharklets". Management of 68.8 tons of hazardous waste. Annual reduction of carbon footprint by 20.616 tons CO2. Recycling 90.71 tonnes of waste at AIA and on-board flight.

SOCIETY

Main risks/effects Having recognized and evaluated the main social issues related to its operation, the Company has set as top priority and has intensively focused on management of the effects of the following issues:

• Flight safety, Training and operational capability • Quality product and attention to passenger • Financial performance • Network planning • Local communities' growth and promotion of the Greek product • Contribution to vulnerable groups of people and cultural activities.

Corporate policies Flight safety, Training and operational capability, Health and passengers' safety The Group applies a Safety Management System, which composes one of the main elements of its corporate responsibility and its process of flight safety management. The Safety Management System creates the conditions for the safety policy implemented and defines the way that the company manages the safety of operations as an integral part of the overall activity.

Emphasis is placed on business continuity and readiness. The type, volume and complexity of activities require that a high level of operational readiness is maintained. On a yearly basis, a risk plan is prepared and evaluated with the corresponding safety-risk controls, with a view to their adequate management. Emphasis is also given to preventive measures

to avoid the occurrence of potential risk. Em
phasis on the availability of flights as well as the smooth and uninterrupted operation of information systems.
The group is in an implementation process of a Disaster Recovery Plan. The plan concerns the process of restoring IT and infrastructure systems after a partial or total disaster (physical or voluntary) and is an integral part of the Group's business continuity.
High quality services and attention to passenger The Group offers high quality services to its passengers during all stages of travel. At the same time, taking into consideration the different needs of each passenger, the Company adjusts the offered services at each stage of the trip, proving its commitment to the passenger. It should also be stressed that the Company offers high-tech options to travelers to facilitate all airport processes.
Through Social Media, Aegean is open to discussion with people and posts regularly about all latest news and updates of the company. More specifically, both Aegean and Olympic Air have a strong presence on social media channels (facebook, twitter, instagram, linkedin).
European Data Protection Regulation 679/2016 on the protection of natural persons regarding the processing of personal data and the free movement of such data Under the European Regulation, the data protection of individuals about the processing of personal data is a fundamental right and every individual has the right to the protection of personal data. The regulation sets new data and requirements against which the Group must respond and comply.
The Group has invested in a software platform for optimal management of IT systems and databases related to the protection of personal data.
Participation in the European Fraud Prevention Group The purpose of the organization is

Aegean Airlines

We were put to a significant test in 2019 – nearly 10 years to the day after we first undertook to transform Air Canada into a global champion. Despite the worldwide grounding of the Boeing 737 MAX, which deprived us of about 25% of our narrowbody fleet for most of the year, we still produced strong and, for some metrics, record results in 2019. Our performance in the face of such prolonged adversity is proof of the success of our transformation, the nimbleness of our organization and the consistency of our earnings.
During the year, we generated record operating revenue of $19.131 billion and ended 2019 with record unrestricted liquidity of $7.380 billion. We performed well on other key metrics too, with EBITDA (1) of $3.636 billion, an increase of $423 million or 13%, and operating income of $1.650 billion, an increase of $154 million or 10%, when compared to 2018. On a capacity increase of 1.8%, record system passenger revenues of $17.232 billion increased $1.071 billion or 6.6% from 2018. It was our 10th consecutive year of revenue growth, and our efforts were rewarded by an 87% return on our shares in 2019. According to the Bloomberg World Airlines index, Air Canada was the best performing airline stock of 2019 and one of the best performers on the TSX. Moreover, it was the top performing stock from all industries on the TSX over the entire decade from January 1, 2010 to December 31, 2019 with a 3,575% return. Complementing our strong revenue performance was laser-focused and disciplined cost control in the face of challenging circumstances. In 2019, operating expenses of $17.481 billion increased $974 million or 6% from 2018. Air Canada's cost per available seat mile (CASM) increased 4.1% from 2018. The airline's adjusted CASM (1) increased 6.1% from 2018. These unit cost increases arose, in large part, from the fact that our system ASMs only increased by 1.8% versus planned growth of approximately 4.8% due to the absence of the Boeing 737 MAX in our fleet for most of the year. There were also unplanned incremental higher costs incurred in relation to the Boeing 737 MAX grounding associated with replacement aircraft, wet leases and ongoing operating expenses, including depreciation and unproductive pilot wages. In 2019, net cash flows from operating activities of $5.712 billion increased $2.242 billion from 2018. Free cash flow (1) of $2.075 billion increased $748 million from 2018 on higher cash flows from operating activities and a lower level of capital expenditures year-over-year, in large part due to the deferral of previously scheduled Boeing 737 MAX aircraft deliveries into subsequent years. CONSISTENCY OF RESULTS AND MEETING GUIDANCE TO INVESTORS HAVE BEEN A KEY FOCUS AND INTEGRAL TO OUR TRANSFORMATION. We ended the year with net debt (1) of $2.841 billion, a decrease of $2.373 billion from December 31, 2018, attributable to an increase in cash, cash equivalents and short- and long-term investment balances of $1.694 billion, and a decrease in long-term debt and lease liabilities (including current portion) of $679 million. At year-end, Air Canada's leverage ratio (1) was 0.8 compared to a leverage ratio of 1.6 at December 31, 2018, a significant improvement and at an "investment grade" level. For the 12 months ended December 31, 2019, return on invested capital (ROIC) (1) was 15.5%. Air Canada's ROIC at December 31, 2019 was significantly higher than its weighted average cost of capital of 7.0%. During 2019, we carried 51.5 million customers, a record for our company. While safety is paramount when transporting our customers, we are also very proud of our consistent delivery of excellent customer service. For the third year in a row and the eighth time in 10 years, Air Canada was voted Best Airline in North America at the Skytrax World Airline Awards, based on a survey of more than 21 million global travellers. We remain the only Skytrax four-star network carrier in North America. For investors, consistency of results is almost as important as their quality. This provides certainty and assurance that a company can manage through cycles that all industries face and which the airline industry has historically experienced more than other industries. Consistency of results and meeting guidance to investors have been a key focus and integral to our transformation. To achieve our objectives, we identified four core priorities that have remained constant and have guided us for nearly a decade. The first of these, Revenue Generation and Cost Control, has been foundational to our success. Not only have we grown revenue consistently, but the quality of that revenue has also improved. In 2019, the increase in system passenger revenue was driven by a yield improvement of 4.6% and traffic growth of 1.9%. The yield improvement, particularly in North America, was due to capacity constraints brought on by the Boeing 737 MAX grounding as well as a generally improved pricing environment. The yield improvement also reflected additional revenue from Aeroplan flight redemptions and other revenue subsequent to the Aeroplan acquisition on January 10, 2019 (2). KEY TO OUR INTERNATIONAL GROWTH HAS BEEN OUR ABILITY TO ATTRACT INTERNATIONALTO-INTERNATIONAL CONNECTING TRAFFIC FROM THE U.S. To leverage our revenue performance, we constantly strive to manage and reduce costs. In 2019, this included the completion of a two-year $250 million Cost Transformation Program, a renewed Capacity Purchase Agreement with Jazz that we estimate will save $50 million annually, and the continued renewal of our narrow-body fleet, with the introduction of our Airbus A220 aircraft that are much more efficient on a unit cost basis than the aircraft they replace. Due to these and other measures, passenger revenue growth exceeded operating expense growth during the year. We achieved this despite the increased costs associated with the Boeing 737 MAX grounding, which we estimate accounted for 3.6 percentage points of the 6.1 percentage point increase in adjusted CASM over 2018. Our second priority remains Global Expansion. Since we first began our expansion a decade ago, we have grown capacity by over 90%, with most of that coming from new international services. Our international routes are supported by our partners in Star Alliance and through our joint ventures with United Airlines and the Lufthansa Group on the transatlantic and with Air China on the transpacific. Diversifying our network is key to our resiliency when facing changing market conditions. In 2019, we continued our international drive with the launch of new services, including to Auckland, Quito and Bordeaux, and we announced new services to Bogotá and Toulouse for 2020. Key to our international growth has been our ability to attract international-to-international connecting traffic from the U.S., with our share of the U.S.-to-international market quadrupling from 2013 to 2019. To do this, we have established three powerful hubs in Toronto, Montréal and Vancouver, where we continue to enhance the connection process. We also continue to enhance our transborder network, including offering service between new city pairs and flying efficient aircraft. In 2019, we took another step to strengthen this initiative with the arrival into our fleet of the Airbus A220 (formerly the Bombardier C-Series), whose range and economics will enable us to open more U.S. routes. We have already announced new transborder services for 2020 using the A220 between Montréal and Seattle and Toronto and San Jose, California. In its short time in our fleet, the state-of-the-art Airbus A220 aircraft has earned rave reviews from customers. WE WILL TRULY BEGIN TO REAP THE BENEFITS WHEN WE RELAUNCH AEROPLAN LATER THIS YEAR. OUR GOAL IS TO HAVE THE BEST LOYALTY PROGRAM IN CANADA AND ONE OF THE BEST AIRLINE LOYALTY PROGRAMS IN THE WORLD. This feeds into another priority, Customer Engagement. As mentioned, Air Canada again won the Skytrax award for Best Airline in North America. In addition, Skytrax recognized our Toronto Signature Suite as the World's Best Business Class Lounge Dining Experience, and we were also named the Best Business Class in North America. In 2019, we made substantial progress on two longterm initiatives to significantly improve our business over the long term. One is the implementation of a new reservation system that will greatly enhance our customer service capability, including through better handling of irregular operations and an increased ability to work with our Star Alliance partners to enrich the travel options we can offer customers. This was a major program entailing 700,000 hours of development work and we implemented the first phase involving our reservations, inventory and ticketing functions. The second phase, transitioning airports to the new system, will be completed in the first half of 2020. A second transformational customer initiative is our new loyalty program. At the beginning of 2019, Air Canada completed its purchase of the Aeroplan program. While the acquisition has already contributed positively to our 2019 results, we will truly begin to reap the benefits when we relaunch Aeroplan later this year. Our goal is to have the best loyalty program in Canada and one of the best airline loyalty programs in the world. Our final priority, Culture Change, is foundational to everything we do at Air Canada and encompasses the passion, dedication and teamwork of our people that enable us to succeed. The culture we built over the last decade was on full display in 2019, as the grounding of the Boeing 737 MAX tested and brought out the best of our 37,000 people. Everyone throughout the organization worked hand in hand to deliver 97% of our planned schedule for the year, under most challenging circumstances. Our culture at Air Canada has been repeatedly recognized, including by Air Canada being named one of Canada's Top 100 Employers, one of Montréal's Top Employers, and one of the 50 Most Engaged Workplaces. As a global carrier, a great strength of our culture is diversity, which we have cultivated. Today visible minorities represent 26% of the Air Canada team and we have 60 spoken languages in our workplaces. As well, close to 45% of our workforce are women. We have been consistently recognized as one of Canada's Best Diversity Employers. This emphasis on diversity also speaks to a broader focus on corporate sustainability and social responsibility. In this year's annual report, we have included a discussion on some of our environment, social and governance initiatives. These include participating in industry emissions reduction targets, reducing waste and promoting recycling, supporting alternative fuel development, equipping employees with tools, resources and advice to help manage mental health, financial and overall wellbeing, and growing the professional development of employees. Beyond being the right thing to do, we recognize that sustainability and social responsibility are increasingly a key criterion for investor decisions. Moreover, corporate sustainability reinforces and binds all our core priorities. Fuel efficiency saves money, participating in sectoral climate plans facilitates global expansion from a regulatory and reputational perspective, our customers expect us to conduct business responsibly and employees take pride in working for an ethical company. After a decade of transformation, we have discovered it is habit-forming and therefore there is no intention to relent. For 2020 and beyond, we have a number of projects underway, most notably our proposed acquisition of Transat A.T. Inc. Others will drive our core priorities, including opening a new Air Canada Signature Suite in Vancouver, launching more market-specific chef partnerships and improvements to onboard service, expanding the use of Artificial Intelligence, and continuing deliveries of Airbus A220 aircraft. Now, along with the rest of our industry, and many other industries globally, we are facing a new challenge with the Coronavirus, or COVID-19. However, our strong balance sheet, extensive and diversified network, brand strength and talented and nimble people will allow us to respond effectively to this challenge. On a personal note, in 2019, I marked my tenth anniversary as President and Chief Executive Officer of Air Canada. Throughout this time, I have enjoyed and am deeply appreciative of the unwavering support shown by our very talented leadership team, by our highly engaged Board of Directors and our long-term shareholders, who have stuck with us through numerous challenges over the years.
I especially want to thank our 37,000 people and our 34,000 retired employees, who have been at the core of our success. Change is never easy and by embracing wholeheartedly such an all-encompassing and open-ended program of transformation, they have proven their deep commitment to our company and to everyday delivery of customer service excellence. As well, I thank our customers and assure them that all of us at Air Canada will continue to work hard to earn and retain their loyalty.

Air Canada

2019 was a crucial year for completing the building of a moderately prosperous society in all respects. Under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the Group faithfully fulfilled its political and social responsibilities as a central enterprise. In doing so, the Group earnestly studied and implemented the important instructions of General Secretary Xi Jinping, resolutely carried out the decisions and arrangements of the Central Committee of the Party and the State Council, and adhered to new development philosophy and requirements of high-quality development. With a commitment to becoming a world's leading enterprise, the Group capitalized on opportunities and surmounted difficulties to maintain safe and stable operation and improved its service quality on a continuous basis. Thus, the Group stayed at the forefront of the industry in terms of operating performance with strengthened competitive advantages. At the same time, positive and stable development was sustained in all aspects and new progress in high-quality development was achieved.

In 2019, the Group's revenue amounted to RMB136,181 million with a profit before tax of RMB9,120 million. Net profit attributable to equity shareholders of the Company was RMB6,420 million. The Group recorded 2.285 million accident-free flight hours, representing a year-on-year increase of 4.12%; traffic measured by RTK reached 25,364 million tonne kilometres, representing a year-on-year increase of 3.50%; 115 million passengers were carried, representing a year-on-year increase of 4.81%; the volume of cargo and mail carried amounted to 1,434.2 thousand tonnes, down by 1.83% on a year-on-year basis.

The Group stayed committed to the overarching principle of pursuing progress while ensuring stability. Amidst the increasingly complicated operating environment, the Group continued to push forward and deepen its reform and enhanced its growth momentum steadily, industry leading operating result was thus maintained. The Group continued to optimise the operation of the entire fleet in order to eliminate the impact of insufficient capacity, and continued to align its investments closely with market demand, thereby improving its resource utilization efficiency. Focusing consistently on the establishment of world-class hubs, the Group has delivered satisfactory results in the quick-profiting projects with solid progress achieved in network expansion. The Group continued to strengthen its marketing control capacity and deepen the transformation of its business model while reinforcing the refined management of yield and enhancing its competitive edges in marketing quality. In advancing its premium brand strategy, the Group has enhanced the synergy of its service provision with a focus on flight punctuality management, which significantly improved the quality of its operation and services. Meticulous arrangements have been made for the first flight and commencement of operation at Daxing Airport, ensuring safe and smooth operation in the two airports in Beijing. In response to the "Belt and Road" Initiative, the Group newly launched 9 international and regional routes such as Beijing-Nice, Shanghai-London and Hangzhou-Rome, and continued to extend the breadth and frequency of the route network of Beijing Hub. The Group also pushed forward the digital transformation and formed a leadership role in experience-oriented services. The Group has garnered 63.5953 million "Phoenix Miles" members, with a 5% year-on-year increase in revenue contributed by frequent fliers; while the number of mobile client users and the relevant sales revenue exceeded 10 million and RMB10 billion, respectively. The Group has devoted greater efforts in brand communication, and participated in the second China International Import Expo and supported the organization of Beijing Winter Olympic Games and International Horticultural Exhibition. The Group also carried out joint marketing and promotion, thereby significantly enhancing the brand recognition and influence of the Company.

The Group forged ahead in the three critical battles and achieved positive progress. Owing to the Group's full devotion to poverty alleviation, Sonid Right Banner, an aid recipient county, has been lifted from poverty, while Zhaoping county has attained its annual target for poverty alleviation. The Group was rated "Excellent", the highest grade, in the assessment of its targeted poverty alleviation work by the central government for two consecutive years. To actively prevent and control material risks, the Group enhanced its capability in risk compliance management, reinforced the foundation for system management and further promoted the development of its internal audit system. The construction of rule of law progressed smoothly. Law-based corporate governance and compliant operation became the general consensus among all staff members. With a commitment to winning the Blue Sky Defense War, the Group optimized its energy-saving and environmental protection management system, and propelled the implementation of energy-saving and emission reduction projects. The Company won the 10th China Environmental Award, and was distinguished as an exemplary company in the special industry inspection.

With a focus on tasks in relation to the state-owned enterprise reform, the Group implemented the requirements under the "two principles that must be consistently adhered to" (「兩個一 以貫之原則」) to facilitate the incorporation of the guidance of the Communist Party into its corporate governance and step up the efforts in the regulated development of the Board, with a view to ensuring the coordinated operation, scientific decision-making and stable development of various governance bodies. The Board of the Company was once again honoured with the "Best Board of Directors" award of the 15th Golden Round Table Award of the Board of Directors of Chinese Listed Companies, and won the "Best Listed Company in terms of Corporate Governance" and "Listed Company with Best Investment Value" awards from the 9th Golden Bauhinia Awards for Hong Kong and China Securities.

In response to the successive outbreak of novel coronavirus pneumonia pandemic in various regions at the beginning of 2020, the Group spared no effort in prevention and control of the pandemic in the bid to maximize the protection of health and safety of its passengers and employees. The Group earnestly performed its social responsibilities at the same time to contribute to this battle against the pandemic. The Group also strived to minimize the impact of the pandemic by adjusting its capacity structure, optimizing yield management, strengthening cost control, and placing more emphasis on risk management and control. We believe that, under the leadership of the Central Committee of the Party and with the nationwide endeavors of the public on a united front, we will surely be able to triumph over this battle of containing the pandemic.

The year of 2020 is the finale year for the 13th Five-year Plan, as well as a critical year for completing the building of a moderately prosperous society in all respects and achieving the first centenary goal. Faced with the missions, risks and challenges posed by the current situation, the Group will unite more closely around the Central Committee of the Party with President Xi Jinping at the core, and make concerted and aggressively excelling efforts to drive the modernization of its governance system and capability. The Group will also leverage its remarkable operation performance to lay a solid foundation for establishing itself as a top-tier global aviation transportation group, and make greater contributions to the great accomplishment of completing the building of a moderately prosperous society in all respects.

Air China

Dear Shareholders, It gives me great pleasure to present to you the 12th Annual Report of the Company for the year 2018-19. I wish to now present the Civil Aviation scenario globally and within India to give a brief background and thereafter, the results of Air India Limited for the financial year 2018-19: cIVIL AVIATIoN ScENARIo WoRLD The global passenger air market size was 4.3 Billion in 2018. The network expanded to exceed 22,000 unique city pairs. This is an increase of 2,000 over the number of city-pair connections in 2017. Over this same period, the cost of air travel for consumers has decreased by more than half in real (inflation-adjusted) terms. The demand for air passenger services grew in 2018 with industry-wide Revenue Passenger Kilometers (RPKs) increasing 7.4%. Airlines transported over 52 Million metric tons of goods this year. Thus, the airline industry is supporting more jobs and GDP throughout the world's economies. Airlines made a net profit of USD 28 Billion in 2018, however, lower than in 2017 (at USD 38 Billion). This was the third consecutive year of robust financial outcome in the broader historical context of the industry. For a third year in a row, the return on invested capital (7.4%) exceeded the cost of capital. However, fuel and other input prices are climbing higher. 2018 saw a deterioration across the all accident rate, jet hull loss rate and fatality risk. In addition to monitoring the long-term aviation trends and identifying emerging risk for the industry, 2018's performance has reinforced the need to continue identifying risks and threats and find innovative new ways to improve safety. INDIA One nation – many worlds is how India, with it's rich and varied attractions be best described. With it's rich treasure trove of heritage, religion, leisure and wild life destinations, snow clad mountains and immensely varied and rich cultural heritage, India indeed offers the finest kaleidoscope experience to tourists who seek to explore it. Aviation sector in the country continues to grow rapidly. With number of aircraft in India now touching 650 and with almost 1100 on order, flying is going to become more and more economical, easier and comfortable. The aviation sector has played a crucial role in enhancing the economy and tourism in the country. The civil aviation industry in India has emerged as one of the fastest growing industries in the country during the last three years. India is currently the third largest domestic civil aviation market in the world and is expected to become the world's largest domestic civil aviation market in the next 10 to 15 years. According to IATA, India will displace the UK for the third place in 2025. The civil aviation industry has ushered in a new era of expansion, driven by factors such as low-cost carriers, modern airports, advanced information technology interventions and growing emphasis on regional connectivity. The aviation sector is on an upswing in India, registering over 16% growth per annum. The nation has indeed witnessed tremendous improvements at the airports and is also rapidly improving domestic and international connectivity. Air traffic in India rose 11% year-on-year to 206 Million during FY18-19. The Government aims to take the industry to the next level with expected remarkable achievements like: ƒ The Government has been encouraging private sector participation. In November 2018, the Government of India approved a proposal to manage six AAI airports under public private partnership (PPP). These airports are situated in Ahmedabad, Jaipur, Lucknow, Guwahati, Thiruvananthapuram and Mangaluru; ƒ In January 2019, the Government of India released the National Air Cargo Policy Outline 2019 which envisages making Indian air cargo and logistics the most efficient, seamless, cost and time effective globally by the end of the next decade; ƒ In February 2019, the Government of India sanctioned the development of a new greenfield airport in Hirasar, Gujarat, with an estimated investment of Rs 1,405 Crore (USD 194.73 Million).; ƒ Under Union Budget 2018-19, the Government introduced NextGen Airports for Bharat (NABH) - Nirman Scheme which aims a five-fold increase in India's airport capacity to handle a billion trips per year; ƒ The Indian Government is planning to invest USD 1.83 Billion for development of airport infrastructure along with aviation navigation services by 2026. Strong GDP growth, a young population and the expansion of India's vibrant middle class is expected to see India achieve some of the fastest growth of any aviation market in the world over the next 20 years. And if costs can be continually brought down and competition remains strong, low fares should serve to stimulate new demand. Aviation, the most complex of all businesses is high on technology, very competitive with complex regulations and low profit margins. This challenge is often reflected in airlines going under as also witnessed in the country's aviation sector. Indian market has witnessed significant changes this year – with the sudden reduction of capacity due to closure of Jet Airways. Despite severe constraints, the national carrier continues to be a symbol of stability and good service and remains focussed on enhancing customer satisfaction. Air India's strategy was to first fill the vacuum created by Jet's closure to minimize passenger inconvenience since April this year. Air India is the only airline in India with long haul operations and we have been able to step in to effectively bridge the gap between demand and supply post April. Within the capacity constraints, we have restructured some routes to offer non-stop services – which is our strategy. We have also added some capacity into the system with which we have been able to launch the non-stop Delhi - Toronto (DEL - YYZ), Bombay - Kuwait (BOM - KWI), Delhi - Doha (DEL - DOH), Delhi - Seoul (DEL - ICN) and Bombay - Nairobi (BOM - NBO) flights. In the India/UK market, we have further added capacity to Heathrow & Stansted and adding Amritsar as one more point to UK. For Dubai, the growth opportunity came up with Jet's closure and we have added more direct points from interior points in India to connect Dubai. Regular introduction of new international flights are indicative of it's commitment and concern for passengers, even in these trying times of ensuing disinvestment. PERFoRMANcE oF THE coMPANy STAND-ALoNE During the financial year 2018-19 the Company had incurred a net loss of Rs.85,563.6 Million as against Rs.53,481.7 Million in the year 2017-18, representing an increase of Rs.32,081.9 Million. Number of passengers carried (Scheduled Services) during 2018-19 increased to 21.8 Million as against 20.7 Million during 2017-18. Passenger Revenue increased from Rs.177,740.9 Million in 2017-18 to Rs.207,741.6 Million in 2018-19. Total Revenue increased from Rs.238,449.4 Million in 2017-18 to Rs.264,305.9 Million in 2018-19. coNSoLIDATED RESULTS The CFS represented consolidation of parent company's financials with the financials of 5 subsidiary companies viz. Airline Allied Services

Limited (AASL), Air India Express Limited (AIXL), Air India Engineering Services Limited (AIESL), Air India Air Transport Services Limited (AIATSL) & Hotel Corporation of India Limited (HCI) and one joint venture viz. Air India SATS Services Private Limited (AISATS). The Consolidated Net Loss of the Group for 2018-19 was Rs.88,802.2 Million which was more by Rs.30,493.30 Million compared to the previous year's loss of Rs.58,308.9 Million. cHALLENGES Air India suffered a net loss of Rs 85,563.6 Million in the year 2018-19. This was primarily due to a huge outstanding debt on which total interest charges of Rs.47,113.0 Million were incurred. Our well trained human resources as well as the continued patronage from public was our greatest strength. One of our subsidiaries, Air India Express Ltd, performed extremely well and has been rated as one of the most economical airlines in the world. Air India's direct long distance connections to USA as well as Australia, remained our prime products. In spite of these, the huge loss indicated that Air India needs to take immediate steps for improving its revenue as well as bringing internal efficiencies. PRoPoSED DISINVESTMENT You would have seen the report on the proposed disinvestment of Air India, the successful conclusion of which will bring out in full measure, its true potential. In the interim, the national carrier will strive for impetus in services improving domestic and international connectivity. Air India Special Alternate Mechanism (AISAM) was constituted last year to guide the process of strategic disinvestment. As no response was received from prospective bidders in the previous exercise held last year, the Government decided to undertake near and medium-term efforts to capture operational efficiencies and to improve the performance of Air India, to monetize non-core land and building assets and to separately decide the contours of the mode of disposal of the subsidiaries. In line with the decision of AISAM, a Company by the name of Air India Assets Holding Ltd (AIAHL) has been incorporated with 100% shareholding held by the Government. This entity is an SPV specially formed for the purpose of acquiring from Air India Limited: a) Its shares held in AIATSL, AASL, AIESL and HCI b) Paintings artifacts and other non-operational assets as may be decided by Air India Ltd and the Government of India c) Non-core assets as may be decided by Air India Ltd and the Government of India d) Immoveable properties whether leasehold or freehold e) Accumulated working capital loans not backed by any asset and f) Other assets / liabilities or of its subsidiaries, as may be decided by Air India Ltd. / Government of India Pursuant to the decisions taken in the various AISAM meetings stated above, Air India began the exercise of transfer of identified debt amounting to Rs 294,640.0 Million as on 1 October 2018. However, in view of lenders approval for transfer not forthcoming, the debt transfer could not take place and the debt continued to be in the books of Air India Limited. Air India continued to service the interest due on these loans identified for transfer to AIAHL. In view of the constraints faced in the transfer of loan from Air India Ltd to AIAHL, the Ministry of Finance approved a refinancing strategy for the identified debt. Based on the Meeting held on 30 May, 2019 in the Ministry of Finance, it was decided that the SPV would raise finances in the following manner to refinance the identified debt of Air India amounting to Rs 294,640.0 Million: a) Non Convertible Debentures (NCD) of Rs 74,000.0 Million to be novated to AIAHL against GoI guarantee b) Issue of Govt Fully Serviced Bonds for Rs 70,000.0 Million against Letter of Authorization c) Issue of Bonds worth Rs 150,640.0 Million with full Government Guarantee for the payment of interest and principal thereof, Accordingly, AIAHL has raised funds through Bonds of Rs 21,985 Crore to repay Working Capital and Aircraft loans of Air India. NCDs amounting to Rs 7,400 Crore is in the process of Novation from Air India to AIAHL. The other procedures relating to disinvestment are in progress. AcKNoWLEDGEMENT I take this opportunity to thank the Ministry of Civil Aviation and Ministry of Finance for their unstinted support. I also acknowledge the support extended by all other authorities including banks and regulatory agencies and assure that we will continue our course on a growth trajectory, taking Air India to greater heights. I would like to thank my colleagues on the Board for their valuable guidance. I mention with deep regret about the sad demise of Shri Y.C.Deveshwar, Independent Director on the Board of Air India on May 11, 2019 and would like to place on record valuable contribution during his tenure on the Board. I would like to thank all employees of Air India Limited for their exemplary efforts to show the world the strength and resilience of our team spirit in pursuit of excellence. I want to thank each one of our employees for his/her contribution and for always rising to the occasion to uphold the image of Air India. On behalf of the Board, I seek continued support, as always.

Air India

The directors of Air New Zealand Limited are pleased to present to shareholders the Annual Report* and financial statements for Air New Zealand and its controlled entities (together the "Group") for the year to 30 June 2019.

The directors are responsible for presenting financial statements in accordance with New Zealand law and generally accepted accounting practice, which give a true and fair view of the financial position of the Group as at 30 June 2019 and the results of the Group's operations and cash flows for the year ended on that date.

The directors consider the financial statements of the Group have been prepared using accounting policies which have been consistently applied and supported by reasonable judgements and estimates and that all relevant financial reporting and accounting standards have been followed.

The directors believe that proper accounting records have been kept in accordance with the requirements of the Financial Markets Conduct Act 2013.

The directors consider that they have taken adequate steps to safeguard the assets of the Group, and to prevent and detect fraud and other irregularities. Internal control procedures are also considered to be sufficient to provide a reasonable assurance as to the integrity and reliability of the financial statements.

Air New Zealand

The ANA Group is looking toward the future as we strive to develop our businesses on a global scale and become an indispensable airline group to the world. Fiscal 2018 in Review. First, I want to thank you, our customers and stakeholders, for your support of the ANA Group. Fiscal 2018 saw groupwide operating revenues surpassing ¥2 trillion for the first time. Operating income marked a new high for the fourth consecutive year. These results are largely due to the positive performance in our mainstay Air Transportation Business. The ANA International Passenger Business has made steady progress in building demand, supported by our superior and growing network of routes from/to Haneda Airport. The ANA Domestic Passenger Business has pursued higher unit prices through the introduction of a new fare structure. Our LCC Business has continued to make progress in the lead-up to the Peach Aviation Limited and Vanilla Air Inc. merger. We have followed through with plans to invest in safety, quality and services, as well as human resources, to solidify our management platform for future business growth. In the peak summer season, we conducted planned flight cancellations primarily on our domestic routes. These cancellations were part of our response to engine issues with Boeing 787 aircraft, or B787. Though it was a difficult decision, safety is always our top priority. We took receipt of upgraded and improved parts from the manufacturer beginning January 2019 to implement a permanent resolution to this technical issue. Engine part replacements have proceeded on schedule. From the beginning of fiscal 2020, all B787s should be in operation and playing a well-secured role in our business. Extending Airline Business Domains to Create Greater Corporate Value. Though the ANA international business drives growth for our Group, the voyage has not always been smooth. In March 1986, ANA launched our first regular international flight operations. These flights ran at a loss for the first 17 years, leading to a number of internal calls for ANA to withdraw from international routes. We reached a turning point in 1999, when we joined Star Alliance. This was the moment that began our journey toward expertise in a working partnership with overseas partner airlines for increased revenues. This alliance also entailed adopting the Passenger Revenue Optimization System (PROS). Then, our International Passenger Business posted a profit for the first time in fiscal 2004. Our second turning point came in fiscal 2014 as we expanded our international route network. We were one of the first to leverage the new B787 worldwide, adding several new destinations, mostly along medium- and long-range routes. By leveraging this state-of-the-art aircraft, its greater fuel efficiency and comfort, we took a first-mover advantage and differentiated ourselves. ANA created a competitive advantage. Looking back on the five years between fiscal 2014 and fiscal 2018, we see that ANA's International Passenger Business available seat-kilometers (ASK) grew by 1.6 times. This growth paralleled revenue passenger-kilometers (RPK) demand, which grew 1.7 times over the same period. In March 2012, Peach Aviation became the first LCC to offer services in Japan. Peach has established routes across Japan and Asia promoting a core concept of being a "flying train," introducing a greater number of customers to the joy of traveling through the skies at reasonable prices. Peach Aviation provides its own contribution to regional revitalization through building new demand separate from the ANA brand. This contribution includes opening routes that connect cities outside of the Tokyo metropolitan area with airports overseas. By the end of October 2019, Peach Aviation will merge with Vanilla Air, the number two LCC of the Group and a Narita-based operator of domestic and international routes. This merger is our bid into the mid-range markets in Asia. Our ANA brand and LCC performance is already beginning to show positive results in this core Air Transportation Business. Average operating income for the last three fiscal years (FY2016 to FY2018, consolidated) has reached nearly ¥158 billion, with average net income of approximately ¥118 billion. When compared to our performance in fiscal 2013, before expansion of ANA's international network, operating income jumped about ¥100 billion, showing a steady rise in the level of corporate value generated by the Group. Fiscal 2019: A Year of Finishing Touches Ahead of Growth in Fiscal 2020. Looking overseas, we see several airline groups that have secured higher profitability than the ANA Group and which have become a familiar part of the lives of many. We also see powerful LCCs that have captured and expanded service routes across several markets in Europe, North America, and Asia, all over the span of less than ten years. The ANA Group has bolstered our presence in Asia, pushed by a strong tailwind of growing inbound tourists to Japan. Even so, we feel we must continue to press ahead by forging a presence capable of going toe-to-toe with even the most iconic global airline groups. In fiscal 2020, Tokyo metropolitan area airports will expand slots further. The same year will see the Tokyo 2020 Olympic and Paralympic Games. Even as these will be major business opportunities for the Group, we must pursue further growth to survive the accelerating wave of overseas airlines making headway in Japanese routes. To achieve this growth, we will be putting the finishing touches on safety, quality and services during fiscal 2019 ahead of growth in fiscal 2020. Though we will enter a phase of aircraft and human resources-related expenses ahead of sustainable growth, these expenses are a necessary part of building a groundwork for the future. Our plan is to implement these measures and achieve an operating income of at least ¥200 billion in fiscal 2020. I firmly believe we can achieve our management vision by consolidating the strength of our Group employees, making further expansions of our network in the Tokyo metropolitan area airports. We will publish an updated version of our FY2018–2022 ANA Group Corporate Strategy in the second half of fiscal 2019. Other industries, such as the finance and automotive sectors, have faced disruptive changes breaking down their existing growth models as lifestyles and consumption habits change. Those of us in the airline business must continue to pursue greater value as we consider whether we can grow under the same business model for the next ten or 20 years by leveraging our existing management infrastructure. Beyond our network expansion in fiscal 2020, we intend to offer our view of company management, working to meet the expectations of our investors with respect to future strategic direction, dividend policies, and the use of capital. Safety and Human Resources: The Foundation of Our Group. Safety is our promise to the public and is the foundation of our business. These words are part of our Group Safety Principles and all who serve in the ANA Group are asked to remember these principles every day. At our yearly new hire orientation ceremony, I make sure to talk about past aircraft accidents. Today, almost no officers or employees, myself included, have experienced a loss-of-life accident in the Group. Safety is the foundation of our business, and our duty. Although building experience is important, the one thing we must never experience is an aircraft accident. Therefore, we must take the lessons learned from past accidents and the importance of safety, passing this knowledge to the next generation. And what is truly the key resource of our Group that underpins this safety? That resource is our people. Today is a time of human resources diversity. Females, males, senior citizens, international citizens, LGBT persons, persons with disabilities, and more all make up the workforce. In fiscal 2018, the Group conducted our employee awareness survey (ANA's Way Survey) twice. We have introduced a mechanism linking the results of this survey to the evaluation of management-track personnel and senior management at each Group company. Under the ANA Group Health Management Declaration, we will continue to cultivate a company culture that allows employees to have a vibrant work life, coming together in unity to ensure customer satisfaction. I believe that this fusion of hard-working, ambitious human resources and mindfulness toward safety plants the seeds for sustainable Group growth. In April 2019, we began operations at ANA Group Training Center, ANA Blue Base. Trainees will gain knowledge about past accidents and learn about human error.

ANA Blue Base also features learning facilities that provide employees with lessons they can apply in their daily activities. The facility leverages the latest technologies to help firmly entrench a culture of safety, serving as a platform for cultivating human resources capable of competing on the global stage. Rationale for Group Promotion of ESG Management. For us to become an airline group contributing to society on a global scale, we must become indispensable to, and grow along with, the people of the world. As a world-wide organization, we consider our coexistence with the natural environment both over the long term and on a global scale. We also monitor social issues, including climate change, food supply, resources, disparity, and education. In my observation of Group history, I have noted that the world has cultures and trade practices vastly different from those in Japan. At the same time, I learned the need to consider environments and societies where we serve to ensure the smooth continuity of our business. As we expand throughout diverse regions of the world, we must incorporate this perspective of existing and growing with society into our business strategy. This perspective has led us to pursue ESG management. In October 2018, we were the first airline in the world to issue Green Bonds. In May 2019, we were the first Social Bond issuer as a non-financial company in Japan. While we pursue our corporate strategy, we procure capital through means focused on the environment and society. Our pursuit is not simply for economic value. We conduct proactive management with an eye toward balance between social and economic values, leading to sustainable growth and, by extension, contribution to the achievement of the SDGs. In March 2019, we became the first Japanese airline company to express support for the Task Force on Climate-related Financial Disclosures (TCFD). Corporate information disclosure is

becoming more critical. First, we will set long-term ESG-related targets during fiscal 2019. We will also make processes toward goal achievement easier to track and conduct regular evaluations of our progress. Improving Governance and Demonstrating the Functions of a Holding Company Structure. The finishing touches we will perform in fiscal 2019 will not be limited to preparing for the expansion of our ANA international network. We will also seek to establish an infrastructure within which we can strategically allocate management resources and advance business portfolios across the entire Group from the vantage point of ANA HOLDINGS INC. In fiscal 2013, the ANA Group transitioned to a holding company structure in response to our operating environment. This structure has served to advance our corporate strategy, focusing on our Air Transportation Business. Though our first task is to grow our business in the Tokyo metropolitan area airports, I feel we can build a foundation from which we can generate reliable value even outside our airline business. To achieve this growth, we will create a more well-defined structure in which individual companies like ANA and Peach Aviation can execute their own strategies under the business portfolio definitions established by ANA HOLDINGS. Though it goes without saying, we move forward on the assumption that we will achieve plan targets based on our corporate strategy. However, it is also very important to allocate management resources in balance between social and economic value. Governance plays a critical role in this process. We believe that in respecting management autonomy, that group companies should be given the authority and responsibility for their businesses. At the same time, we believe in providing a strong group oversight function through a holding company structure. To ensure this balance, we continue to enhance the effectiveness of and improve our board of directors. These initiatives to bolster the board's oversight function have included changes to the board's authority and large-scale transfers of decision-making authority to the Group Management Committee. Most recently, our board of directors has received presentations from major Group companies related to our corporate strategy, discussed medium- and long-term issues in our Air Transportation Business, and held direct discussions among directors and teams working in the front lines. These and other measures advance our agenda. We have also discussed several issues beyond the scope of matters included in our corporate governance report. These issues include the study of plans related to succession candidates and cross-shareholdings. We continued to incorporate the PDCA cycle in management. Moreover, we strive to ensure transparency and fairness in our management. Our Personnel Advisory Committee and Remuneration Advisory Committee each support the board of directors in an advisory capacity, and each committee consists of a majority of outside directors. As we advance these various initiatives, we steadily raise awareness among members of the board, leading to more lively discussions. We continue to adapt to the changing environment around us, and we will pursue qualitative enhancement of governance, practicing management that contributes to creation of corporate value. Looking to the Future. Forty years ago, when I was just a new hire at ANA, I submitted my dream to our internal corporate newsletter. I wrote, "Even though ANA may only be a domestic airline today, someday we will expand internationally, and maybe even offer space travel in the future." Today, ANA operates 172 of daily international passenger flights (as of August 1, 2019). And, our eyes are already set on the stars, as we sow the seeds of future businesses. Forty years from now, I imagine that the wings of ANA will extend to the stars as a matter of course. Though our Group had once sought to be the No.1 airline in Asia, I want to raise our sites to operate on a global scale. Through the expertise and brand power we have grown over the last nearly 60 years, and through the hospitality that is a particular strength of airlines in Japan, we will shine bright on the world stage, uncovering value that has lain dormant until now. Advances in innovation, including AI, will allow us to exercise speedy management. Setting our goals and working hard every day will enable us to certainly fulfill our dreams. As the head of the management team, I will spare no effort in leading our Group toward becoming an airline group that is indispensable to the people of the world. I ask for your continued support of the ANA Group.

ANA All Nippon Airways

A beautiful takeoff toward sustainable growth. First of all, I would like to express my heartfelt gratitude toward everyone who provides continuous support and trust to us at Asiana Airlines. With the management policy focused on persistent effort, during the past year, Asiana Airlines strove to become a beautiful and powerful company by reinforcing its core competence as well as restructuring and continuous innovation. We added two A380 aircrafts to our major routes, New York and Los Angeles, for safe and comfortable journey of our customers, and confirmed a plan to introduce and operate aircrafts, A350 for mid-to-long routes and A32NEO for short routes, in order to establish efficient and competitive fleet. In addition, we launched new routes to Rome and Astana, and added flights to Chinese cities including Yancheng, Guilin, Chongqing, and Chengdu. Furthermore, we launched a FOQA (flight operations quality assurance) committee in which both the management and labor participate, and reinforced our evaluation and safety teams for flight training in order to improve the quality and safety of flight training. The management policy of Asiana Airlines for the year 2016 is summarized as 'Back to the Founding Spirit' which suggests we will renew Asiana Airlines by bringing back the passion and determination the company had when it was founded. Again, this year, we will introduce two more A380 aircrafts in order to reinforce our competitiveness in long-distance flights with a total of six A380s, Air Seoul, which was launched earlier this year, will cooperate with Asiana Airlines and Air Busan, maximizing the synergy effect. Also, like last year, we will enhance our competitiveness through efficient organizational management, strategic route operation, improved aircraft competitiveness, and enhanced system, as well as continue to establish the sustainable base and invest in safety through integrated safety management system, etc. We are planning to engage more actively in reducing energy consumption and greenhouse gas emission by

optimizing fuel use, reducing flight fuel costs, and cleaning the engines, and strive to perform our role as a beautiful company by sharing the talent and knowledge of Asiana Airlines staff through our Social Responsibility brand 'Beautiful Classroom' and themed activities. We believe the value of a corporation in being the top in the industry does not lie in simply making profit but in sharing it with all stakeholders and moving forward with them. All staff of Asiana Airlines will continue to make effort so that we can grow as a beautiful company that is trusted and practices sustainable growth. We hope to see your continuous support and trust for a long time. Thank you.

Asiana Airlines

Corporate social responsibility. At Copa Airlines, we take pride in providing all of our passengers with world-class service, the best on-time performance in the region, and access to the most destinations through the Hub of the Americas. We are also proud of our ongoing efforts to ensure that we have a positive impact on society and the environment. That's why our social responsibility strategy focuses on enhancing the growth and well-being of our employees, supporting improvements in the communities we serve, and protecting the environment. At Copa, our employees—who number more than 9,500—thrive in a work environment that encourages professional development and growth. In a testament to the success of this approach, in 2015, 72% of management openings at Copa were filled internally. We also offer a range of corporate wellness programs—including, to name just a few, a scholarship program that enables employees' children to attend private bilingual schools, free health and immunization services, and emergency financial assistance. Programs like "You Make the Difference" are important, too. Every quarter, this program offers outstanding employees the chance to be recognized at a fine luncheon with the company's Board of Directors. They also get to visit the Boeing factory in the United States and welcome one of our new airplanes. Our contributions to the communities we serve are focused on supporting children, education, and health. Our Aircraft Mechanics School and the Higher Academy of Aviation of Latin America are just two examples of our educational commitment to the broader community. Both schools provide training for talented young people who aspire to become pilots or mechanics in the growing aviation industry. Through our volunteer program, we also support projects designed to enhance the quality of education in public schools and encourage students to stay in school. When it comes to health, we mainly provide support in the form of plane tickets, enabling patients of limited means to travel to hospitals where they can receive specialized care that is not available in their home countries. Given the nature of our business, Copa Airlines is deeply committed to protecting the environment. That's why all of us at Copa keep the three R's (reduce, reuse, and recycle) in mind as we go about our work. Our stringent aircraft maintenance programs, ongoing upgrades to our fleet, and investments in new technologies also enable us to operate more efficiently, reducing our carbon footprint and our impact on the environment. We know that our actions alone cannot solve all of today's problems, but we're convinced that if each of us does our part, we can ensure a better future for generations to come. Thank you for choosing us. At Copa Airlines, we help unite the Americas. Our flights shorten distances and connect the entire continent. With dedication and commitment, we make it easier for families to stay together, we help people enjoy the wonders of our region, businesses and professionals to thrive and we make it possible for human beings to reap these benefits. We do this thanks to the effort and dedication of our more than 9,000 employees whom, day by day, go the extra mile to offer the highest levels of service and the best punctuality in the world. We were the first Latin-American airline recognized by the Official Airline Guide as "the world's most punctual airline" with a punctuality index of 89,79% in 2018, three percentual points better than the previous year. Likewise, FlightStats also recognized our punctuality, awarding us the prize of "Latin America's most punctual airline" for the sixth consecutive year; according to this report, we have the highest punctuality indicator among the world's regions.

Throughout 2018, we continued carrying out activities aimed to support the country's social and economic development and those of the communities where we operate. This is why our actions involve preschool and primary education, supporting students and institutors in the strengthening of their curriculum, and carrying out programs to avoid school dropouts, thus ensuring the continuity of these student's technical and university studies. Through these actions we have been able to positively impact the lives of more than 13,200 youth and children in social risk. On the other hand, we continue working to improve the reach of our two academies: ALAS (Latin-American Academy of Superior Aviation) and ATA (Academy of Aeronautical Technicians), which have graduated a total of 26 pilots and 35 aeronautical technicians. We know that investing in the protection of the environment is to invest in everyone's future; that is why we renovate our fleet every year, replacing six of our aircraft with the new Boeing 737 MAX9, which consumes 14% less fuel; an action which consolidates our regional leadership in terms of fleet renovation and operational efficiency. In 2018, we collected more than 367,000 lbs. of carton, glass, paper and plastic, that is an increase by 200% in our recycled materials collected in 2017. We continue our compromise to develop our commercial activity, rationalizing our consumption of energy, reducing our carbon emissions , diminishing noise and recycling the industrial debris we generate. It's important to highlight our employee's human sensitivity, having demonstrated a high social commitment by donating more than 17,000 volunteer hours in 60 activities that benefitted 53 different NGOs. Among these actions is the donation of more than 200 plane tickets for the medical treatment of vulnerable children, our humanitarian help flights and Viaje Inolvidable, a program dating back to 25 years ago, and which this year, recognized the effort of children who cover great distances on foot to get to school. Our employees' and their families' well-being is at the heart of our sustainability strategy. In 2018, we consolidated our PAC (Employee Support Program) aiming to help mitigate the impact of crises that may directly affect their quality of life. PAC is part of our comprehensive wellbeing program, through which Copa leaders, along with the help of our Human Resources Team, offer support to the needs of our employees who find themselves in situations of sickness, contingencies, crisis or personal emergencies.

Our plan for the future is to continue with the advancement of our strategic route, operating with the highest ethical standards and responsibility towards our providers, clients, employees, communities and allies, contributing thus to socio economical value creation for the country and the region. Our country is the bridge that connects the Americas, it's privileged geographical location allows us to be the HUB of the Americas and this, in turn, calls us to work in strengthening our role as leaders in regional logistics. Thanks to our team's commitment, we connect people and destinations, while adhering to the highest standards of safety and punctuality. We cross the continent's skies to make possible for families to get closer, for more people to visit and enjoy the wonders of our region, for communities to grow and develop, for businesses and professionals to thrive and for human beings to reap these benefits. Our headquarters are located in Costa del Este, six miles away from Tocumen International Airport. From there, we operate our System Operations Control Center, the synergic and statistical core of our operations. There, a group of multidisciplinary specialists ensure operational efficiency and the safety of each fight. At Copa Airlines, our vision is to be the leading airline in Latin-American aviation and the passengers' choice of connecting airline. In order to achieve this, we are constantly opening new routes and establishing synergies with other airlines that may allow us to offer a wider range of options. Our commitment is to always go the extra mile, not only in terms of our operational cycle for our clients' benefits, but also in terms of our long-term vision to create shared value for all our stakeholders. The strategy that allows us to offer value can be summarized in "La Ruta al Éxito" (or Route to Success), a compendium of actions that establish our objective of strengthening profitability, along with responsible management of our business.Copa Airlines is a subsidiary of Copa Holdings, S.A. and a member of the Star Alliance global network or airlines

Copa Airlines is a subsidiary of Copa Holdings, S.A. and a member of Star Alliance. We connect people and destinations in 1,330 airports in 192 countries.

We have made the Hub of the Americas, the region's leading connection hub. One of the youngest and most modern fleets in the industry. 80 destinations in 32 countries in North, Central and South America, as well as the Caribbean.

Copa Airlines

Dear readers, being consistent in our endeavours to bring the business operations of our company closer to you and to make the same more transparent, it gives us great pleasure to present the Nonfinancial Statement of Croatia Airlines for the second consecutive year. Just like last year's report, this report too has been prepared in accordance with GRI standards which reflect the best practice worldwide in reporting within the framework of corporate social responsibility. On this occasion, we would also like to share with you the fact that our Nonfinancial Statement was the first nonfinancial statement in the Republic of Croatia to have been prepared in accordance with GRI standards. This only confirms the excellence of even this segment of our business operations. Respecting all of our current and future stakeholders, with this report we have tried to present all our activities in the field of corporate social responsibility, communicate all the important components of our corporate culture and our daily business operations, and outline in brief all that makes us proud to carry the name and truly be on a daily basis – the Croatian national carrier. We believe that you will agree that Croatia Airlines is very often one's first contact with the Republic of Croatia, with our culture and our entire heritage, which is another reason why we have been designing all our activities with great care, attempting to present our country in the best possible way and to continuously contribute to the enhancement of the reputation of our company and society as a whole. Also, the recognisable visual identity of Croatia Airlines' aircraft bearing the inscription CROATIA contributes significantly to the promotion of Croatia as a destination with our everyday presence at all the airports that Croatia Airlines flies to. An increasingly turbulent and demanding environment requires that we adapt continually and just as quickly. New technologies, innovations, trends, changes in customer habits and behaviours, and regulatory changes are challenges that we are faced with every day. In this, always keeping in mind the sustainability of our business operations, we know that corporate social responsibility is a prerequisite for its continuation, a prerequisite for building and maintaining trust with our passengers, our stakeholders – in brief, our position in the future. Conducting business responsibly and sustainably strengthens our competitive position in the market and builds our comparative advantage in modern business processes, which in turn reflects on the stability of our business. The fact that the development and application of the company's practices of sustainable development have been further enhanced by our company's membership in international aviation associations and federations – based on which we have been continuously expanding horizons for all our stakeholders, as well as for us as a company – is also worth highlighting. Croatia Airlines' corporate social responsibility is embedded in our mission, in consequence of which we pay particular attention to suiting our services to current market needs, striving to satisfy all involved stakeholders through business processes and their improvement. Croatia Airlines is actively involved in the implementation of the global aviation strategy for environmental protection and supports all measures that contribute to the reduction of air pollution caused by aviation, but the company also supports the growth and development of the industry. In its development, Croatia Airlines is guided by the principles of sustainable development in the following main areas of its operations – fleet selection and the application of appropriate procedures that reduce fuel consumption, CO2 emissions and noise. One of the most important challenges of sustainable development in aviation today is the dynamic growth of air transport and its impact on global climate change through greenhouse gas emissions, CO2 in particular. Accordingly, we use this opportunity to recall that, in 2018, the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) regulation was adopted, according to which, as of the beginning of 2019, the sector of aviation is required to carry out CO2 emission measurements on all international flights. By applying this regulation, all flights operated by Croatia Airlines are part of one of the CO2 emission measurement systems or CO2 emission trading systems (EU ETS, CORSIA, Swiss ETS), thanks to which we have joined a large number of companies and countries that invest great efforts and initiatives in the global reduction of greenhouse gas emissions in the volunteer stage of the system. In turn, Croatia Airlines is also planning to renew its fleet in the upcoming period by replacing its existing A319 and A320 aircraft with brand new and most modern Airbus 320 neo aircraft, which are distinguished by reduced fuel consumption, reduced noise levels and reduced greenhouse gas emissions. In addition to having recognised environmental protection as a principle and the contribution we have made by conducting concrete activities in the field of environmental protection, I would like to emphasise our efforts to adopt and implement sustainable business practices in the other segments of our business operations as much as possible. I am proud to be able to highlight that, in the year ahead of us in which we are celebrating the 30th anniversary of the company, Croatia Airlines has been operating successfully to the benefit of the wider community. More specifically, Croatia Airlines is Croatia's important link with the world, a company that meets the needs of many domestic and foreign passengers by not only interconnecting Croatia within its borders, but also by connecting Croatia with the whole world, thus contributing significantly to the development of Croatian tourism, its regions and Croatia's economy in general. 2018 is the third consecutive year in which we continued to expand our network of flights, making us today richer for ten new European destinations or twelve new routes. In 2018, three new seasonal international flights were also introduced – namely, from Zagreb to Dublin, from Split to Copenhagen, and from Dubrovnik to Munich – as well as flights from Zagreb to Mostar operated throughout the entire year. With the above, we have not only set ourselves new challenges, but have also created achievements – in 2018, we flew a total of 2,168,863 passengers, which is a record number of passengers in the history of our company. Croatia Airlines is today a safe and reliable airline company within the European framework. As far as the company's contribution to Croatia's economy is concerned, I proudly point out that we have been amongst the top ten largest exporters in the Republic of Croatia for a number of years. At the beginning of the year, by a decision passed by the Government of the Republic of Croatia, Croatia Airlines was put back on the List of Companies of Strategic and Special Interest to the Republic of Croatia. In consequence, Croatia Airlines has become part of the National Reform Programme, according to which the aims listed are ensuring the company's further development, and strengthening the competitive advantages and position of Croatia Airlines in the air traffic market through quality strategic partnership. This is what we can surely expect in the future, something we shall be writing about in the forewords to our upcoming financial and nonfinancial statements. Before we end this foreword, we shall share with you the fact that we are always here for our community and its members, whom we often provide with direct support by flying people who need help and by partaking in charity events. Knowing that transparency and sustainability are the only principles that will maintain the company's competitive position in the market, what remains for me to share with you is the news that, since March 2018, I have been a member of the Board of the European Regions Airline Association (ERA), a non-profit trade association representing the European aviation industry. Considering this to be a special both personal and business challenge, in the upcoming period I shall strive to make the necessary contribution in this segment as well, which, I am convinced, will contribute not only to Croatia Airlines, but also to the Croatian aviation industry as a whole, while undoubtedly enhancing the international reputation of our company. Until the next nonfinancial statement, we commit ourselves to continuing to work with the same enthusiasm and necessary investment, strengthening and increasing awareness of the importance of corporate social responsibility and of contributing to sustainable development with a view to creating, through joint forces, an environment for the common good and a better quality future for all our stakeholders.

Yours faithfully,

Croatia Airlines

Our Stakeholders. I am pleased to announce that EGYPTAIR Holding Company has successfully completed the first phase of its two-phase restructuring project in February 2019. Drastic performance improvements have been made based on statistical analysis and data reconfiguration. Our project partners have helped us find solutions to enhance our business, achieve our ambitious goals and reach our major target in improving service delivery, reducing costs, and efficiently responding to every change in the Aviation Environment. Moreover, we aspire to accomplish the desired goals of maximizing the return on investment, maintaining the airline›s competitiveness and enjoying a significant growth of market share; with an eye on the company›s human capital - the milestone of development in any organization.

We at EGYPTAIR have been evolving to meet our customer's needs and requirements. A major part of this evolution is fleet modernization, aiming to provide our valued customers with an extraordinary travel experience onboard the latest aircraft types. The new aircraft are equipped with state-of-the-art technology and the latest In-flight entertainment and communication systems; to offer our valued passengers an amazing IFEC experience, foster passengers' loyalty, generate ancillary revenue, and reduce operating costs. Accordingly, an agreement was signed with the International Lease Finance Corporation (ILFC) to lease 6 B 787- 9 & 15 A320 NEO, it also includes a deal with airbus commercial aircraft for the purchase of 12 A 220_300 with purchase rights for additional 12 aircraft - based on the agreement signed so far - this will increase the number of new aircraft to 45. In accordance with the Egyptian Government's long-term strategic directions for the year 2030, EGYPTAIR's modernization plan is on track to guarantee better quality services to regional and domestic routes and thus, increase opportunities for network expansion and reach far beyond our customers' expectations. In the meantime, the airline is in the process of operating several routes in Africa, Europe, Asia, North America, in addition to increasing frequencies to other key destinations worldwide, aiming to improve our customers' travel experience, maintain their precious loyalty, and boost our market competitiveness. EGYPTAIR subsidiaries have shown great achievements in the year 2018/2019. EGYPTAIR Maintenance and Engineering has managed to open new horizons in the African and Asian markets in the fields of aircraft maintenance, repair, and overhaul. In this regard, it has contracted with Zimbabwe›s national carrier; Air Zimbabwe, to carry out heavy maintenance tasks for one of its Boeing B737-800 aircraft; as well as its deal with the Asian Afghani carrier Kam Air. Another agreement was signed with Swiss-AS for the purchase and implementation of AMOS. Moreover, the company's Calibration Labs have been accredited by the National Accreditation Board ANAB of the USA. EGYPTAIR Cargo has taken delivery of the Airbus A330-200 Passenger-to-Freighter (P2F) converted aircraft from Elbe Flugzeugwerke (EFW); part of its plan to expand its fleet and launch new services. Moreover, EGYPTAIR's training academy has managed to provide our human capital with all necessary trainings to boost their qualification skills. The academy has also offered training services to several airlines in the African and the Far East markets.In compliance with safety management systems implementation, EGYPTAIR has renewed several international certifications like EASA, IOSA, ISAGO, and ISO, by successfully passing several audits and inspections; in addition to the Star Alliance annual audit. Dear Partners, I express gratitude to our stakeholders, managers and employees – our leading force for their support and immense efforts in EGYPTAIR's success journey to gain its brand power and business market growth.Driven by our pioneering spirit, passion and inspiration, we strive to keep up the hard work, ensure safety, quality and utmost customer service. We will develop growth strategies and address various changes and challenges to improve our corporate value. We have a clear vision and ambition to become the world's leading airline group for years to come.

EGYPTAIR

Ladies and gentlemen, 2019 was another demanding year for the global airline industry. Slower economic growth worldwide, trade disputes, uncertainty surrounding Brexit and overcapacities – especially in the German market – and the resulting price erosion also affected the performance of the Lufthansa Group. Despite these difficult conditions, we can point to some successes: we have reduced our unit costs for the fourth year in succession. Lufthansa German Airlines and SWISS performed well on long-haul routes. This is also reflected in our passenger numbers, which reached new records. The comprehensive turnaround plan for Eurowings is already having an effect, and we are pleased to have been able to make further improvements to our market position in Germany, despite competition from low-cost carriers. Lufthansa Technik again made a significant contribution to group earnings in 2019. And, not least, the LSG group improved its earnings, in spite of the uncertainty related to the sale of its European business. Altogether we met the targets for 2019 which were revised at the end of the first half-year – Adjusted EBIT came to EUR 2,026m and the Adjusted EBIT margin to 5.6%. We are not satisfied with that, but the success of the measures initiated in 2019 confirms our intention to work even harder on the further development of the Group. We have set ourselves the goal of safeguarding and strengthening our long-term market position as the leading European airline group through profitable growth. CREATING SUSTAINABLE VALUE – for our shareholders, customers, employees, and for society and the environment – is our aspiration and thus also the title of this year's annual report. In this context, we accelerated the strategic transition of the Lufthansa Group from an aviation group to an airline group in 2019. By selling the European business of the LSG group, we are separating ourselves from an operating segment that only has minor synergies with the airlines. We are maintaining close links to the LSG group, however, by signing a long-term catering contract and thus ensuring that the in-flight catering experience is still of the highest quality under the new owner, gategroup. With a focus on our airlines, we continued to modernise the fleet in the reporting year and introduced innovative products and services. This strengthens our premium positioning and enables us to offer our customers a highquality travel experience. The repeated confirmation of our Five-Star rating from Skytrax underlines the success of our quality offensive. The restructuring of the Executive Board in terms of responsibilities and individuals also reflects our concentration on the core business segment. In the new Commercial Passenger Airlines function, Harry Hohmeister is now responsible for the commercial activities of all the passenger airlines in the Lufthansa Group. Thorsten Dirks is now responsible for the new IT, Digital & Innovation function. We are all looking forward to working with Christina Foerster and Michael Niggemann, who have moved up to the Executive Board. Michael Niggemann is now in charge of Corporate Human Resources and Legal Affairs, as the successor to Bettina Volkens. The appointment of Christina Foerster to the new Customer & Corporate Responsibility function strengthens our focus on the customer and establishes social and environmental responsibility at the highest level of the Company. Although only some 3% of global anthropogenic CO_2 emissions are the result of air traffic, we feel a growing responsibility to minimise the environmental impact of flying. To this end we have developed a comprehensive strategy consisting of measures with both an immediate and a long-term effect. They range from the continuation of our fleet renewal and different remuneration options through to support for the production of alternative fuels. Sustainable economic success is a prerequisite for all these investments, also for our social commitments. We therefore have to ensure that all the operating segments earn their cost of capital. With this aim in mind, we launched wide-ranging programmes in 2019 to safeguard earnings and cut costs at Austrian Airlines, Brussels Airlines and Lufthansa Cargo. The beginning of 2020 has been difficult – the spread of the coronavirus and the resulting drop in demand for flights are putting immense pressure on us. We are addressing this challenge by adjusting our flight capacity flexibly to lower demand and cutting costs in all areas. In view of this exceptional situation and to further reinforce the balance sheet, we have decided to make a proposal at the Annual General Meeting not to pay a dividend for the financial year 2019. But we do not intend to lose sight of the Group's long-term strategy. We will continue to work to add value for you, our shareholders, by maintaining a balance between the interests of all stakeholders – shareholders, customers, employees, society and the environment. We on the Executive Board will dedicate ourselves wholeheartedly to this task. We would be pleased if you would continue to accompany us on this journey.

Lufthansa

POSITIVE REVENUE DEVELOPMENT IN A CHALLENGING YEAR. Despite a challenging year, SAS delivered a positive full-year result thanks to an attractive customer offering, a robust operational performance and enhanced revenue generation. How would you summarize 2019? We were able to show that we continue to deliver on our strategy and made progress within several areas during the year. For example, our strong and improved customer offering led to an increase in unit revenues and passenger yield. In addition, the number of EuroBonus members increased 0.5 million to 6.1 million during the year, which contributed to a 5% increase in ancillary revenues. On the other hand, we faced substantial challenges such as unfavorable currency movements, increased fuel costs and a labor conflict. All of which impacted SAS negatively and made our full-year earnings decline MSEK 1,350, which of course is unsatisfactory. Why would you say aviation is important? It fulfils an extremely important function in society – connecting businesses, people and cultures in a time- efficient way. I believe that aviation is a foundation for value creation, job security, innovation and development. The access to air travel means that Scandinavian companies can prosper. It gives them the possibility to stay in Scandinavia, instead of moving their business to other countries, and still have access to global customers. It also means that foreign businesses can locate their operations in Scandinavia. Traveling also enriches our lives. It's fantastic to discover new places, experience other cultures and to be exposed to new ideas. However, for the future of aviation, we and the whole industry have a big responsibility to find a path toward a more sustainable future. This is an existential issue and we at SAS want to lead the way. Therefore, we work hard to reduce our climate impact and emissions, and are making a substantial investment in the most fuel-efficient aircraft fleet on the market. How is the work with sustainability progressing? We have further accelerated our sustainability efforts throughout the year. We phased in seven new Airbus 320neo aircraft during 2019 and we reached a 34% completion rate for our fleet renewal program at the end of the fiscal year. The new and technically advanced Airbus aircraft we are phasing in, reduce carbon emissions by 15–30% compared to aircraft of the previous generation that are being replaced. We also made progress in reducing the weight of our aircraft and thereby fuel consumption. For example, by further developing our meal pre-ordering services, renewing cabin interiors with light-weight materials and switching to light-weight containers in our Cargo operations. We continued our efforts to increase the supply and usage of Sustainable Aviation Fuel (SAF), such as biofuel. Altogether in FY19, we sourced 455 tonnes and also made it easier for our customers to add biofuel to their SAS ticket, in addition to the volumes SAS is already using. However, for SAS to receive the quantities needed and at a competitive price, it will require a largescale production of SAF, preferably in Scandinavia to reduce transportation related CO2 emissions. SAS is also taking part in a number of research and development projects – for example with Airbus – regarding the next generation of aircraft with lower or even zero emissions. In the interim before such aircraft are available, sustainable aviation fuel such as biofuel is key to ensure a step-change reduction in emissions from the airline industry. Already today, it is technically possible to include up to 50% sustainable aviation fuel in our aircraft. We have set an ambitious target for 2030 to reduce our emissions 25% compared to the base year 2005, and in 2019 we continued to make progress, reducing emissions 2.4%. For the emissions that we can't eliminate with current technology, we continue to carbon offset for the SAS tickets of EuroBonus members, youth passengers and staff. During the year, we compensated for 32% of our total passenger-related CO2 emissions. What improvements to the customer offering would you like to highlight? During the year, we launched 25 new routes and nine new destinations to adapt our network to customer demand. New aircraft were phased in with new features to make traveling more comfortable and sustainable. We have finalized the upgrade of our cabin interior, and our customers could enjoy high-speed WiFi access on 60 of our short-haul aircraft. We further improved our ground service offering. 21 new fast tracks were opened, and we continued our work to make existing services faster and more efficient. We also continued to equip our staff with tablets to more quickly and directly assist our customers. We added more features to our EuroBonus loyalty program and introduced Lifetime Gold Membership to make it even more attractive for our most loyal customers. We also added priority boarding for friends and family of Gold and Diamond members and the ability to collect and share points among family and friends. Our determined work toward more sustainable air travel also attracted customer attention and an increased willingness to choose SAS. From the beginning of February, we also introduced carbon offsetting on all SAS tickets booked with an attached EuroBonus number. Last but not least, we increased the punctuality of our operations by 2.6 percentage points. Altogether our efforts were reflected in the SAS Customer Satisfaction Index, which increased by 2 points to 72. "Our determined work toward more sustainable air travel also attracted customer attention and an increased willingness to choose SAS." How would you describe the operations during the year? We have delivered on several initiatives aimed at improving operations throughout the year. We optimized network redundancies and increased the availability of spare aircraft. We also recruited more staff to our operations on the ground and in technical maintenance. I'm pleased to see that the investments made were reflected in an improved operational robustness where punctuality increased, and regularity remained at high levels. The investment in a single-type fleet continues and will bring significant benefits to our operations. that proper planning, digital investments and engaged employees made a significant difference for our customers during the strike. In terms of increased efficiency, we delivered on our target of SEK 0.9 billion set out for the year. The remaining SEK 0.6 billion of the total SEK 3 billion will be delivered in the next fiscal year, according to plan. What do you see when looking ahead? The economic outlook continues to be uncertain and a slowdown in key economies would impact customer demand negatively. The continued weakness of the Swedish and Norwegian krona against the US dollar and the Euro also remains a challenge. When looking ahead, we foresee that capacity growth will be lower than what we have seen in recent years, at the same time as customer demand is also expected to slow down. We are also mindful of the increased customer awareness of aviation's impact on the environment. The industry has faced a number of unfortunate bankruptcies in recent years. A clear signal that carriers must continue their efforts to further improve customer offerings and efficiencies. To meet these challenges, we at SAS must continue our transformation. We have begun working with the next phase of initiatives to secure a long-term sustainable and profitable business. The investment in a single-type fleet continues and will bring significant benefits to our operations, for example with reduced stand-by levels, training and maintenance costs. The new fleet also lowers fuel consumption and thereby CO2 emissions. We accelerate our Lean and digitalization efforts, which will increase the automation of administrative tasks and reduce overhead costs. We will also benefit from improved asset and crew utilization with new system and planning processes that will help us to further enhance our strong operational robustness and reduce costs. Our operating model also needs to be further developed. Rightsizing the fleet is crucial from a profitability perspective, but it is also an important part of our journey toward a more sustainable future. Our older 120–150 seat aircraft serving the mid-size segment need to be replaced in the next few years. But we have to make sure that the benefits of single-fleet operations on all platforms remain intact and that all our production units have the prerequisites to compete effectively. The plan for the coming years comes with a substantial long-term efficiency improvement of SEK 1.5–2.0 billion by 2023. Some of our initiatives will benefit us in 2020, while others lay the foundation for increased efficiency in the years to come. To conclude, I would like to convey my sincerest thanks to all the employees, customers, investors and partners who have been with us during the year and look forward to an exciting 2020! To enable easier and faster rebooking in the event of traffic disturbances, we introduced new digital tools in 2019 to more effectively assist affected passengers and thereby also reduce costs for refunds and claims. During the seven-day pilot conflict, all of our investments and initiatives were put to test during an extreme level of traffic disruptions. Although I would have preferred to avoid the disruption, I'm pleased to see that proper planning, digital investments and engaged employees made a significant difference for our customers during the strike. In terms of increased efficiency, we delivered on our target of SEK 0.9 billion set out for the year. The remaining SEK 0.6 billion of the total SEK 3 billion will be delivered in the next fiscal year, according to plan. What do you see when looking ahead? The economic outlook continues to be uncertain and a slowdown in key economies would impact customer demand negatively. The continued weakness of the Swedish and Norwegian krona against the US dollar and the Euro also remains a challenge. 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SAS Scandinavian Airlines

in support of SiA's drive to be world's leading digital airline, significant progress was made during the year on the digital front. our multi-phased digital transformation includes huge investments in both people and systems. A big development was in January 2019 when we opened our digital innovation lab, Krislab, in line with our Digital innovation Blueprint which was launched a year earlier. Dear Shareholders,

During the second year of our three-year organisation-wide Transformation, major developments were seen in all key aspects of the programme, encompassing revenue generation, sharpening of our cost base and enhancement of organisational structure. Solid progress was made on the revenue-generation front in particular, with a record-high $16.3 billion achieved for the financial year. passenger load factor also reached a record full-year high. The Group's underlying performance was strong overall, against the backdrop of a $1 billion increase in fuel cost.

We continued to boost our portfolio through our investments in both fullservice and low-cost operations, and in strengthening our multi-hub proposition through growth in overseas joint venture airlines vistara and nokScoot. our new business initiatives, such as in pilot training, also saw developments during the year, for example with the start of operations of our Singapore-cAE flight Training joint venture.

Enhancing customer experience remains at the heart of our brand promise. A big headline during the year was the launch of the world's longest commercial flights, between Singapore and new York, using the world's first Airbus A350-900UlR (Ultra long Range) aircraft. The launch strengthened our network reach and competitiveness, improving connectivity by reducing travel times between two of the world's major financial centres.

There were many other product and service enhancements during the year, such as in f&B offerings and in the rollout of new regional cabin products on our new Airbus A350-900 medium haul aircraft fleet. With personalisation being a priority, network-wide meal pre-ordering for premium class customers - another one of our many industry firsts - was introduced.

A multi-year investment programme was also unveiled during the year for regional wing SilkAir. Ahead of its eventual merger into SiA, new lie-flat seats will be fitted in Business class and seat-back in-flight entertainment systems will be fitted in both Business class and Economy class on SilkAir's aircraft. This will strengthen the Group's regional full-service offerings, ensuring closer product and service consistency across our widebody and narrowbody aircraft operations.

on the low-cost front, Scoot saw challenges during the year, in part as a result of an unusual level of operational disruptions that were largely related to Boeing 787 engine issues. However, Scoot has continued to lay the foundations to benefit over the medium and long term from growth in the budget travel segment.

SiA has also faced operational challenges in recent months as a result of issues with the Rolls-Royce Trent 1000 TEn engines that power its Boeing 787-10 aircraft, while SilkAir has faced challenges related to the worldwide grounding of the Boeing 737 mAX 8 fleet. We wish to assure customers that the safety of our passengers and crew will always be the SiA Group's top priority.

in support of SiA's drive to be world's leading digital airline, significant progress was made during the year on the digital front. our multi-phased digital transformation includes huge investments in both people and systems. A big development was in January 2019 when we opened our digital innovation lab, Krislab, in line with our Digital innovation Blueprint which was launched a year earlier. Under the Blueprint, we are working to develop and nurture the digital aviation and travel technology community in Singapore. Krislab serves as a collaborative workspace for SiA Group staff to develop innovative ideas and co

innovate with external partners, startups, established incubators and accelerators, enabling the SiA Group to fully embrace digitalisation and technology in all aspects of our business operations.

These, and our many other transformative developments, are better positioning the SiA Group for the future, in an industry which gets more competitive each year. our shareholders can rest assured that we have been forward looking in our approach, to address genuine structural change that has been taking place in our part of the world.

i would like to express thanks to my fellow Board members for their dedication during the financial year, including our two newest directors, David John Gledhill and Goh Swee chen. my sincere appreciation as well to Dr Helmut panke, who retired from the Board after serving as a Director for nine years.

on behalf of the Board, management and the more than 27,000 employees of the SiA Group all around the world, allow me to also express my thanks to our partners and shareholders for the ongoing support and confidence. The progress made in fY2018/19 has given the Group even more positive momentum, which we will be building on in the year ahead.

Singapore Airlines

INTRODUCTION I write this report as the new Group CEO of South African Airways to reflect on the achievements of the 2016/2017 financial year at a time when SAA is facing major challenges both internationally as well as in the domestic market. Increased competition in the international market is impacting on passenger numbers and yields, whilst the increase in available seat capacity, largely driven by low cost carriers (LCCs), has had a similar impact on the domestic market. Despite the widely reported challenges affecting SAA, the business fundamentals are still solidly in place. South African Airways has a good reputation and track record for passenger safety and its on-time performance is amongst the best in the aviation industry. Moreover, SAA has maintained its operational excellence with huge endorsement coming from the 15-year streak of a 4 Star ranking by Skytrax as well as a host of other accolades. A capital injection of R10 billion has helped restructure the balance sheet and improve our equity position. Even with R10 billion, SAA will remain with a negative equity position, a situation we together with the SAA Board of Directors, and the shareholder, are tirelessly working to improve. FINANCIAL PERFORMANCE In the 2016/2017 financial year, SAA recorded very little revenue growth of R26 million, from R30.716 billion to R30.742 billion, mostly attributed to increased competition in international and domestic markets, reduction in passengers, and declining yields. On the other hand, operating costs rose by R3.308 billion, 11% higher than the previous year. The cost to income ratios continued to move in the wrong direction, an undesirable outcome for any business. With 55 percent of the SAA cost base linked to foreign currency, the group has significant exposure to foreign exchange fluctuations. SAA has to focus on increasing revenue as well as reigning in costs leading to improved margins and creating headroom to compete in an ever increasing competitive market. ENHANCING CUSTOMER EXPERIENCE Improving customer experience is our number one priority. Our value proposition is underpinned by higher order commitment to maintain high safety standards, and improved customer experience in every customer interaction we engage in. We sustain our outstanding safety record through strict adherence to quality assurance, regular training, and a system of accreditation by international bodies in the aviation sector. Aircraft profile is an important part of any airline's service offering and arguably the most difficult to address. The source of our sustainable competitive advantage is quality of service in all customer touch points. We will continue to improve our service to our customers. Voyager, our loyalty programme, is the key element of SAA's value proposition. It is the first airline loyalty programme that is based on revenue. We are extremely proud of its contribution to the Group. Our distribution partners who sell our propositions in the market remain our pillar of strength. We will continue to invest in rich propositions including a diverse route network as well as customer experience improvements. OUR ROUTE NETWORK With 25 destinations in Africa, our route network remains the widest network on the continent, making us the carrier of choice for the inbound international traveller and code-share partners, and our franchise partners, such as Airlink and SA Express. We will continue to optimise our route balance, geographical coverage, frequency, and route profitability. LONG TERM TURNAROUND STRATEGY (LTTS) SAA has embarked on a five-year turnaround strategy to build a financially sustainable group. The pillars of the five-year turnaround plan include: 1. Liquidity – SAA has not been generating free cash flow for many years largely due to lack of profitability. It is important to drive key initiatives that will reduce cash burn and drive business performance 2. Balance Sheet Restructuring 3. Revenue Stimulation 4. Cost Optimisation 5. Refining the Strategy for SAA

South African Airways

I'm delighted to present the 10th TAP Report on Sustainability, covering 2015, the year in which the company marked 70 years of operations. TAP continues to be committed to providing quality service to passengers, acting with awareness of its obligations to society and the environment. To this end, the strategic guidelines defined by the TAP Group outline the following fundamental objectives: the creation of economic and social value for shareholders and the nation, satisfaction and anticipation of the expectations of clients and also, guaranteeing the best conditions for the empowerment and professional progress of staff. TAP operates in a demanding climate of increased competition and regulation and relies on a strategy of sustained expansion, which combines economic performance with the responsibility we have assumed for both society and the environment. Our day-to-day operations are supported by a culture, which is founded on the principles of security, transparency and responsibility. In order to fulfil this commitment and carry out these

established practices, TAP shares annually the programs, achievements and strategies, which it has developed with its shareholders. We marked 70 years of TAP in Lisbon, the city where we have our main centre of operations, with the exhibition "TAP Portugal: Image of a People – Identity and Design of the National Airline – 1945-2015" held at the Museum of Design and Fashion (MUDE). The history of the TAP brand is intertwined with the history of Portugal itself. It should be noted that, in this the year which TAP celebrates this historic achievement, it has taken a decisive step towards the future through the implementation of privatization, with the Atlantic Gateway consortium chosen as winners of the selection process. From an economic perspective, this has allowed us to clarify the situation of the business, introducing an investment of around 350 million euros and consequently concentrating efforts on the development of the strategic plan of the TAP Group. The commission of 53 new aircraft, to join the fleet in 2017, constitutes the first resolution in building the new TAP and allows for a promising view of the future, during the period covered by this report. This will be a stronger, healthier business from an economic and financial standpoint and more efficient, sustainable and competitive at a global level. With regard to the fleet, it should be noted that the choice of the new A330-900neo for long-haul operation and the A320321 neo for both medium and long-haul operations will allow significant improvements at the level of energy and environmental efficiency, as well as guaranteeing comfort to our customers. In 2016, we will begin the replacement of the Portugália (TAP Express) fleet, allowing for average energy efficiency savings of around 40%. MESSAGE FROM THE CHAIRMAN OF THE EXECUTIVE COMMITTEE TAP Maintenance and Engineering was chosen as the winner of the largest European Programme of research and innovation in aeronautics – Clean Sky 2. In 2015 we started a programme of modernisation and alteration of the current fleet. This work involves the installation of devices called 'sharklets' onto the end of the aircraft's wings, improving aerodynamics and allowing for fuel savings of around 4%, while also extending the operating life of the aircraft by 36,000 hours of flight. In compliance with our environmental pledge, it is important to point out that we have launched a new reading service on board. This service allows passengers to access newspapers and magazines for free, in place of mobile devices, leading to reduced weight on board and subsequent reductions in the consumption of fuel and CO2 emissions. With regard to ground-based support operations, improved energy efficiency has also been a priority throughout the remodelling and renovation of infrastructure. The environmental performance metrics show an overall reduction in consumption in this area (Paper -15%, Water -3%, Natural Gas -5%), reflecting the commitment of the Company and its associates in applying conservation measures. In 2015 more than 16,400 metric tonnes of CO2 were offset through the scope of our Carbon Offset Programme, clearly showing the importance which TAP passengers place on contributing to the global effort to combat climate change. It was with this combination of changes that the opportunity arose to develop an "Air Shuttle", which will link Porto and Lisbon with scheduled departures each hour between the two cities and which will also open new links with the United States, developing a new strategic route in the North Atlantic. Any airline, which intends to maintain a vision of growth and development, must nowadays strive for ever greater efficiency. Working efficiently does not only mean working on adjustments to its aircraft, but also involves the organisation of its internal infrastructure. TAP is working on developing projects, which aim to promote such objectives in the social sphere as well. The company's employees are its most important assets, being essential for the complete fulfilment of the company's future plans. We have been pleased to see an increase in the percentage of permanent contracts. In the scope of our relationship with the community, we have consolidated the work, which had already received a strong foundation through the Volunteers with Wings programme. Through enhancing the resources, which the company has been able to provide to this group of workers for the purposes of social and humanitarian work, the waste reduction efforts that have been developed have allowed for the gathering and distribution of a significant amount of goods that have been donated later to a diverse range of institutions.
TAP was voted the 'Best Airline in Europe', by 'Global Traveller Magazine' of the USA – one of the most prestigious, specialised North American publications in the area of travel and tourism. We further received a number of trophies in the WTA (World Travel Awards) including: Europe's Leading Airline to Africa, Europe's Leading Airline to South America and Europe's Leading Inflight Magazine. These and other prizes earned throughout the year convey the recognition TAP receives as a large, international brand, giving fruit of our efforts and the work we have been undertaking, consistently and with commitment. The history of TAP has been remembered many times throughout 2015, in the scope of our 70th anniversary celebrations. Yet now in the face of the possibilities, which are offered by this new phase, we have every reason to be confident when looking to the future.

TAP Air Portugal

In 2019, Thai Airways International Public Company Limited has conducted its 59th anniversary amid different situation from 2018. We, unavoidably have encountered various factors that negatively impacted the Thai aviation and tourism industry. For instance, the world economy grew at the poorest rate in the past 10 years, the trade war between the United States and China, natural disasters, oil price fluctuations and the strongest Baht recorded in the past 6 years as well as aggressive pricing competition action in the aviation industry. Accordingly, the Board of Directors and Management carried out to follow the 10-year long-term strategic framework (2017 - 2026) which in conformity to the state enterprise strategic plan and government policy, consisting of 5 strategies as follows: 1. Increase profit from aggressive marketing and cost competitiveness (Aggressive Profit) to create maximum profits continuously by managing revenue from the air transport ancillary revenue, costs, fleets and aviation network effectively. 2. Develop and seek for opportunities of the business portfolio to derive highest benefit from asset management, creating advantages in competition which contributed by internal coordination of airline business and allies. Develop existing and new business or enter into a joint venture in potential business. 3. Create impressive customer experience to enable all seamless services that perfectly fit to each customer group an bringing the best satisfaction. 4. Apply innovation and digital technology to develop contemporary architectural structures, creating competitive advantages. Having modern technology systems that increase operational efficiency along with trimming the costs. Message. Regardless of the obstacles laying ahead, we anticipate to face and strive through. The time will proof our intension and more importantly, the support from all shareholders which is the key factor that prompts us to conquer all tests and vigorously progress to the future with the glory and jointly with all Thai citizens. Please trust and show us an encouragement to empower us carrying on the THAI Airways that rises in Thai sky forever. 5. Effective Human Capital Management Strategies allows concise and flexible organizational structure, while employees are engaged with the organization, feeling ownership and taking part in business operation. Employees will receive knowledge and skills development that is consistent to their responsibility to enhance their performance and expertise. In 2019, the environment, society and governance (ESG) has emphasized the importance of developing good corporate governance of THAI, together with promoting corporate governance to enable understanding good corporate governance adhering to ethical management and morality when performing their duties. For this year, the Company arranged the CG Day 2019 with participation from the Board of Directors, executives and employees of THAI has mutually signed their declaration to join the Collective Action Coalition Against Corruption – CAC. Finally, on behalf of the Board of Directors, I believe that fullest commitment and performance of the Management, executives and all employees illustrates the potentials and the spirit of the people in all sections designated to serve. Whether the ground or in-flight crews, all will speed up the reformation plan toward the target and gain the pride of THAI for the Thai nationals as always. Regardless of the obstacles laying ahead, we anticipate to face and strive through. The time will proof our intension and more importantly, the support from all shareholders which is the key factor that prompts us to conquer all tests and vigorously progress to the future with the glory and jointly with all Thai citizens. Please trust and show us an encouragement to empower us carrying on the THAI Airways that rises in Thai sky forever.

THAI Airways

JOURNEY TO THE FUTURE GOES ON FROM ISTANBUL AIRPORT. 9.5% INCREASE IN PASSENGER NUMBERS In 2018 we served 75.2 million passengers, up 9.5% year-on-year. MILLION NUMBER OF PASSENGERS IN 2018. DISTINGUISHED SHAREHOLDERS, CUSTOMERS, BUSINESS PARTNERS AND EMPLOYEES, Turkish Airlines registered strong growth across all its business areas in 2018. The year was also marked by a historic development for our country, our Company and the global aviation industry. On October 29, 2018, Republic Day, the President H.E. Recep Tayyip Erdoğan inaugurated Istanbul Airport – a global hub that is the new home of our national flag carrier. With this state-of-theart facility, we are building a bright vision for the future, taking Turkey and the Turkish aviation sector to a higher level thanks to its strong multiplier effect. As will be seen more clearly in the coming years, Turkey and Turkish Airlines are well-positioned to capitalize on trends such as the shift of the center of global economic activity from West to East, and the ascendance of Asia Pacific as the most prolific growth region for the world's aviation industry. 2018 was also a historical milestone for our democracy. Following the Presidential Elections, which realized the nation's will at the highest level, Turkey has remained attractive globally owing to its political stability, ongoing growth and strong economic potential. During the year, our nation welcomed around 44 million tourists drawn to its unmatched natural beauty as well as rich historical and cultural heritage. Meanwhile, Turkish Airlines ranked among the fastest-growing companies in the aviation industry thanks to its continuously expanding flight network and the enviable market position as the Flag Carrier of Turkey, one of the world's top tourism hubs. OUR EXPERIENCE IS OUR COMPETITIVE ADVANTAGE Blending the deep experience of our 85-year old brand with the vibrant energy of the young, dynamic Turkish Airlines family, we are steadily moving forward to achieve our goals, which are as robust and ambitious as ever. As one of the most well-established brands in the industry, our sole objective remains the same since our inception: unite our passengers – our valued guests – with their loved ones while presenting them the beauty of our country and richness of our culture. To date, we have garnered numerous awards and stood out with our superior service quality. These achievements also provide critical support to our home airport on its journey to "becoming the best in the world ." At Turkish Airlines, we cherish the place we occupy in the hearts and minds of our passengers above any award or accolade that we may receive. The Turkish Airlines family, from all staff ranks across the organization, has played the biggest role in making us number one in the eyes of our passengers. On this occasion, I would like to once again extend my gratitude to my colleagues for their valuable contributions to our national flag carrier, and to our subsidiaries, stakeholders and enterprises that have helped our national civil aviation industry to move forward. The recent achievements of Turkish Airlines –a great, sixty-thousand-strong family together with its subsidiaries – bolster our determination to reach the very top of world aviation. DOUBLE-DIGIT PAX AND CARGO GROWTH Turkish Airlines undertook huge investments in infrastructure, fleet and employment in 2018, which yielded significant benefits and progress in every area. In 2018, the total number of passengers increased 9.5% over the prior year to reach 75.2 million. Our total passenger load factor came in at 81.9%, up 2.8 points year-on-year. The international passenger load factor rose 3.0 points to 81.4%, while domestic passenger load factor increased 1.2 points to 85.3%. The 11.6% jump in the number of direct passengers clearly demonstrates Turkey's steep climb in the global tourism industry. Our financial statements also reflect the strong results of a successful tourism season. In 2018, we registered a consolidated real operating profit of USD 1.19 billion – an all-time record for us – while posting a net profit of USD 753 million. In addition, our EBITDAR hit an all-time high of USD 3 billion 349 million, while the EBITDAR margin stood at 26.1%. Thanks to its flight network covering the highest number of countries and international destinations worldwide in addition to highly diversified revenue streams, Turkish Airlines boosted its revenues by 17.3% to USD 12 billion 855 million backed by rising demand - thus setting yet another record in 2018. One of our sub-brands, Turkish Cargo, maintained strong growth in 2018 with a view toward becoming one of the world's top five cargo companies by 2023. Currently ranking in the global top eight and serving 124 countries,1 Turkish Cargo expanded its total carried cargo by 25.8% over the prior year to reach 1.4 million tons. Meanwhile, cargo revenues jumped 25.1% year-on-year to USD 1.65 billion in 2018. In parallel with worldwide growth of e-commerce over the last decade, the air cargo sector has experienced rapid expansion. In 2019, global e-commerce is expected to total USD 3.5 trillion2. As the air cargo sector is a direct stakeholder of e-commerce, the share of business-toconsumer e-commerce in air cargo has gone up from 83% in 2016 to 90% in 2018.3. Despite intense global competition in aviation and ongoing uncertainties in our region, Turkish Airlines posted double-digit pax and cargo growth figures and high profits. We continue to rank among the most successful companies in the industry worldwide. Turkish Airlines has one of the youngest and most modern fleets in the world. Our aircraft have an average

age of 8.2 years. At year-end 2018, our fleet totaled 332 aircraft: 218 narrow-body, 92 wide-body and 22 freighters. Turkish Airlines figures among the global top 10 in terms of fleet size.4 We are set to climb even higher in the rankings as the Boeing 787-9 Dreamliner is scheduled to join the fleet in the summer of 2019. In addition, the first of a series of new generation wide-body Airbus A350-900 will follow suit in 2020. Our unrivaled flight network – centered in Istanbul, our main hub – expanded further to cover 124 countries by the end of last year. Meanwhile, our flight destinations climbed to 310: 52 domestic and 258 international. Sierra Leone's capital Freetown; the Uzbek city of Samarkand; Russia's Krasnodar; Moroni, the capital of the Union of Comoros; Gambia's capital Banjul; and the capital of Zambia, Lusaka were the new destinations added to our flight network in 2018. OUR BIGGEST ADVANTAGE: ISTANBUL AIRPORT Turkish Airlines' growth will gain further momentum thanks to this world-class facility, whose first phase will serve 90 million passengers per year. Istanbul Airport will be able to accommodate 200 million passengers upon completion of all phases. In 2019, we plan to start flights to the cities of Marrakech in Morocco; Sharjah in the United Arab Emirates; Bali/Denpasar in Indonesia; Mexico City and Cancun in Mexico; Rovaniemi in Finland; Luxor in Egypt; Port Harcourt in Nigeria; Pointe-Noire in the Republic of the Congo; and Strasbourg in France. Backed by the highly robust performance of the tourism industry, one of our driving engines, Turkish Airlines plans to further diversify the direct flight offerings from the country's tourism centers – such as Antalya, Izmir and Bodrum – to Europe and the Middle East in 2019. This effort is in line with the Direct Tourism Initiative we launched last year together with the Ministry of Culture and Tourism. In 2019, we also aim to expand the number of flights to export-oriented cities such as Kayseri, Gaziantep and Adana. In 2018, we continued to strongly connect Ankara to Europe, launching flights between Turkey's capital and major urban centers in Europe and the Middle East. In 2019, we plan to continue our efforts to this end. According to International Civil Aviation Organization (ICAO) data, the number of scheduled passengers globally rose 6.1% year-on-year to 4.3 billion in 2018. In line with industry trends, the number of such passengers is projected to jump to 4.6 billion in 2019. Aviation authorities forecast that over the next two decades, number of airline passengers will total 8.2 billion, with compound annual growth of 3.5%.5 The primary driver of this growth, which is expected to nearly double current number of airline passengers will be the Asia Pacific region, which accounts for an ever-increasing share of global economic activity. Turkish Airlines is already preparing for the future of civil aviation by combining the unique strategic value position of Istanbul with Turkey's unrivaled geographic position at the intersection of two continents. As the airline flying to more countries than any other, Turkish Airlines is gradually implementing its growth strategies with regard to its flight network, fleet and service quality in line with this perspective. READY TO MAKE HISTORY WITH ISTANBUL AIRPORT The first phase of Istanbul Airport was completed in a record-breaking time of just 42 months and inaugurated on October 29, 2018 by the President H.E. Recep Tayyip Erdoğan. Istanbul Airport places Istanbul – our home city that connects two continents – at the very center of the global aviation industry. As a result, Turkish Airlines and the Turkish aviation sector are aligned with the shifting economic axis of the world to provide both with maximum advantage. Developed with in-depth strategic insight and forward-looking vision, Istanbul Airport ensures the healthy, sustainable growth of Turkish Airlines in the coming decades. The cutting-edge facility also bolsters Istanbul's leading position in terms of tourism, logistics and commerce, on one of the most critical axes of world air transportation and trade in general. Istanbul Airport is the world's biggest greenfield airport built under a single roof. The strategically located facility provides access to 66 countries within five hours of flying time and heralds Istanbul's new position as a veritable superstar of world aviation. For Turkish Airlines, Istanbul Airport represents the opportunity to add new destinations to our continuously growing flight network in line with our mission of building bridges between continents, peoples and cultures. The main differentiator setting Turkish Airlines apart from its rivals is our "Brand Experience," which incorporates unique values originating from our deep-rooted culture, such as our commitment to hospitality. With our new home at Istanbul Airport, our Brand Experience has been refreshed and enriched with innovations that more clearly showcase the importance we place on serving our passengers. From special passenger lounges to streamlined self-check-in areas, we have redesigned every point of contact between our brand and our passengers with a fresh touch. Turkish Airlines works tirelessly to deliver an ever more impressive experience that our passengers will enjoy with us. All these opportunities, advantages and more will help us raise the bar of service quality even higher and surpass ourselves. We warmly await our passengers at Istanbul Airport, which has a 90 million passenger capacity in its first phase and will reach a total capacity of 200 million passengers when all phases are complete. Turkish Airlines has truly ushered in a new era with Istanbul Airport. We plan to move forward by taking bold, dynamic and resolute steps in this new era, heading toward more ambitious goals with renewed confidence. As a symbol of this new exciting period, Turkish Airlines has refreshed its cabin uniforms and the brand's visual identity – most discernible visual elements for our passengers. The elegant cabin uniforms demonstrate our commitment to reaching our goals by blending the experience from our deep-rooted history with chic design. This new look also prepares the cabin crews, our continuously smiling faces, for the new and exciting period of growth that lies ahead. The "Flow" detail in our new uniforms, designed by the renowned haute-couturier Ettore Bilotta, symbolizes the brand's award-winning, streamlined and impeccable service philosophy, while reflecting the vibrant energy of our country Turkey and our home Istanbul. MAKING A DIFFERENCE WITH OUR COMMUNICATION CAMPAIGNS As a global brand and Turkey's national flag carrier airline, Turkish Airlines provides support to social, cultural and sports activities in the countries that we serve. We forge ties between peoples and societies in order to actively promote our service philosophy across the world. Turkish Airlines is also committed to representing the heritage of civilization of our home country. We serve as de facto ambassadors of Turkey. These various social, cultural and sports activities rank among our top communication efforts to convey the influence and power of our brand to mass audiences. In 2018, one of the leading communication campaigns that we launched was "Five Senses," featuring the famed TV presenter and surgeon Mehmet Öz, also known as Dr. Oz. Under this campaign, Dr. Oz invited hundreds of millions of people to discover the world via Turkish Airlines. For the third time, our brand was present in the commercials aired during the Super Bowl, the championship game of American football and the most watched program in television history. This effort strongly boosted our brand recognition. Global studies show that Turkish Airlines ranks second in terms of brand recognition among the world's most popular airlines. We continue our efforts in this arena to become the global "number one." By supporting cultural and sports activities, Turkish Airlines fulfills the requirements of being a global brand, while also building bridges between peoples, by means of shared values and ideals. One of the sports activities that we sponsor is Turkish Airlines EuroLeague. This effort allows us to contribute to European basketball, take advantage of the unifying power of sports, and deliver the brand commitment of Turkish Airlines to the wider masses. In our sponsorship activities, we highlight Turkey's innumerable natural and cultural assets, thus contributing to our tourism sector as well. The Turkish Airlines Open has turned Antalya into one of the preeminent destinations of world golf tourism by welcoming the top names of this sport to our country. We also reach out to amateur golfers with the world's largest corporate amateur golf tournament: Turkish Airlines World Golf Cup. Our other sponsorships include the European Professional Club Rugby Championship and Chio Aachen Equestrian Tournament. Sponsorship participation at these events allows us to reach a key segment of potential passengers and further enhance the prestige of our brand. TOWARDS HIGHER GOALS Marked by our double-digit growth and the start of operations at Istanbul Airport, fiscal year 2018 was a crucial milestone for Turkish Airlines. Istanbul Airport, which became fully operational in 2019, is a strategic asset to Turkish Airlines with regard to our objectives for 2023 and beyond. We are aiming for 120 million passengers and a 500-aircraft fleet by the 100th anniversary of our Republic in 2023. To this end, Turkish Airlines will ramp up its journey to the summit of the aviation sector, as a great family of over 60,000, including our subsidiaries. I would like to extend my gratitude to our employees, business partners and shareholders for sharing our excitement about this new era of aviation we are entering, and their confidence in us. We hope to close fiscal year 2019 with even more ambitious achievements. A GREAT FAMILY OF OVER 60 THOUSAND With a large, 60-thousandstrong family including its subsidiaries, Turkish Airlines continues its journey to the very top of the aviation industry.

Turkish Airlines

Lessons I learned from my kids. When our kids were young, they introduced the term "sustainability" to my wife and me. They were learning about it at school and, over dinner, they starting asking us what we were doing to make the world more sustainable. I couldn't help but bristle a bit at the question because, while we were enduring this little pep talk, the lights in their bedrooms were burning brightly, despite our many pleas for them to turn them off. But...they had a point. If you think about it, "sustainability" is a great word to describe what we should all be trying to do...live our lives and run our businesses in a way that people, communities and the environment don't run down, but get better and stronger. While I joke about it today, like many other lessons I learned from my kids, I am thankful to them for giving me a new way of thinking. So what does sustainability mean for us at Alaska? To me, it means running our business in way that benefits customers and improves their lives. It means businesses flourish because we provide needed infrastructure for them. It means communities benefit, not only because we connect them to the world at large, but because we roll up our sleeves and invest in them at a grassroots level. It means our employees are empowered with meaningful work and that they get to experience the joy of a job well done. (And by the way, when our company does well, they share in the rewards.) And it means that our owners, who invest substantial sums of capital and assume significant risk, realize returns that are appropriate for their investment. And finally, it means that we do all of this with as little impact on our environment as possible. If you think about it, this is a tough challenge for a growing business like ours. Alaska added 20 new markets and 10 new cities to our network in 2015. As we continue to grow, we need to find new ways to manage our impact on the planet, while at the same time taking good care of our people and our communities. Here's an overview of what you will see in our 2015 sustainability report: Social: Our people are our most important resource, and we invest in them. For 2015, our employees received bonuses of more than nine percent of their annual pay, or nearly five weeks of additional pay. Last year, 9,000 customer-facing employees learned how to take our fantastic service to the next level at our Beyond Service training. In addition, we educated our leaders on diversity and inclusion, challenging their own and others' core beliefs and assumptions about race, gender, sexual orientation, social status, and more. We applied these lessons to our hiring efforts to ensure our employees increasingly come from diverse backgrounds and represent the communities where we fly. Alaska donated almost $12 million to charitable organizations in our communities last year, including job training for workers at Sea-Tac Airport. And our employees volunteered more than 27,000 hours, giving of their time to many great causes. More and more, we are focusing our efforts on youth and education and, in particular, children with the greatest needs. Performance: In 2015, we were honored to receive our eighth straight J.D. Power award for having the highest customer satisfaction among traditional network carriers. Keeping our customers happy is at the heart of what we do, and it's why we improved our inflight experience by investing in preferred seating, power at every seat, a new inflight entertainment platform, and higher quality food and beverage options. These improvements helped us achieve record revenues of $5.6 billion and record profits of $842 million, a 47 percent increase over 2014, despite fierce competition in our core markets. Results like this affirm that we have built a sustainable business that can stand up to a challenge. Our overarching goal is to run a safe, reliable airline, and in 2015, we exceeded our on-time performance target while maintaining our performance against aggressive safety goals. We also continued to drive down costs, allowing us to offer lower fares, which we know our customers want. Environment: While our carbon reduction efforts are making an impact through the use of flight technology, one of the most modern, fuel-efficient fleets in the U.S., and satellite-based navigation aids, we need to do more to reduce our reliance on fossil fuels. To that end, we have partnered with Boeing and the Port of Seattle to work toward bringing biofuels to all air carriers at Sea-Tac Airport. In addition, we are close to being the first airline to test alcohol-to-jet fuel. Onboard, we're recycling 83 percent of all recyclable items. And on the ground, we've revamped our corporate offices with energy-saving LED bulbs, and we are partnering with our flight kitchens to start inflight composting and reducing our paper consumption by 13 million sheets. These efforts take a lot of work, and I want to thank the incredible people of Alaska for tackling them head on. After all, companies don't get things done, people do. Our employees take great pride in taking care of our customers, our communities, our planet and our airline. With our employees leading the way and the leadership of this company standing firmly behind them, I believe we'll become an even more sustainable business in the years ahead. And that should make all of our children happy.

Alaska Airlines

Faced with rising risks and challenges at home and abroad, the Group accelerated the reform of its system and mechanism, made great efforts to modernise its governance system and capability, and adhered to safe development, high-quality development, innovative development, cooperative development, shared development and green development. During the reporting period, with the joint efforts of the management and all staff, the Group's safety quality was improved continuously, passenger traffic volume reached a new record high, and brand image was greatly enhanced. In 2019, the Group achieved 2.951 million hours of safe flight and retained the best safety record among China's airlines. The Group's market share in Daxing Airport will reach approximately 43%, making it the largest main base airlines. 2.951million hours 43% I. Business Review In 2019, the downward pressure on the world economy increased due to frequent international trade frictions, intensified global financial volatility, geopolitical risks and other factors. The World Economic Situation and Prospects 2020 issued by the United Nations shows that the global economic growth rate slowed down to 2.3% in 2019, the lowest level over the past 10 years. Among which, the U.S. economy grew by 2.3% and the economy in the Euro Zone grew by 1.1%, representing a year-on-year decrease of 0.6 percentage point and 0.8 percentage point, respectively. Economic growth rate in emerging markets and developing economies was 3.5%, representing a year-on-year decrease of 0.8 percentage point. The daily utilisation rate of aircraft increased by hour year-on-year % 0.23 The flight on-time performance rate increased by percentage points 2.36 year-on-year We have maintained aviation safety for 20 years The number of passagers served in Guangzhou hub increased by 6.3% In 2019, under the general guideline of seeking progress while maintaining stability, China took structural reform on the supply side as the main line, promoted high-quality development and did well in the "six-stability" of stabilizing employment, finance, foreign trade, foreign capital, investment and expectations, and maintained a mediumto-high-speed and healthy economic development. GDP

increased by 6.1% year-on-year, among which, consumer spending contributed 57.8%. Faced with rising risks and challenges at home and abroad, the Group accelerated the reform of its system and mechanism, made great efforts to modernise its governance system and capability, and adhered to safe development, high-quality development, innovative development, cooperative development, shared development and green development. During the reporting period, with the joint efforts of the management and all staff, the Group's safety quality was improved continuously, passenger traffic volume reached a new record high, and brand image was greatly enhanced. In 2019, the Company served approximately 152 million passengers, ranking first among China's airlines for 41 consecutive years. The Company was enrolled in the "2019 China Brand Powerhouse Ceremony Model Among 100 Brands" issued by China Central Radio and Television Station, won the "Asian Service Award" issued by Asian Network for Quality (ANQ) and the "Golden Phoenix Award" issued by SINA.com, and was awarded "2019 China's Best Airline Company" by Business Traveller. 1. Safety Operation During the reporting period, the Group started the construction of safety management, promoted the transformation of safety management to institutionalisation, systematisation and informationisation. Efforts were made to build a regular mechanism for work style and discipline, safety supervision measures were intensified, and management performance was further improved. During the reporting period, the Group achieved 2.951 million hours of safety flight, with an accumulated safe flight of 26.386 million hours. We have achieved 15,000 hours of general flight, secured aviation safety in 20 consecutive years and aviation security in 25 consecutive years, and continued to keep the best safety record among China's airlines. During the reporting period, the Group further promoted the construction of integrated operation, and effectively improved the operation quality and efficiency. We improved the management mechanism, promoted unified and standardised management of operation standards, integrated operation services, and greatly enhanced the support capacity for comprehensive service. The flight ontime performance rate of the Company increased by 2.36 percentage points year-on-year, and the daily utilisation rate of aircraft increased by 0.23. Hour year-on-year in 2019. 2. Network and Hub During the reporting period, the Group started the construction of two comprehensive international hubs in Guangzhou and Beijing in accordance with the orientation of "One Headquarter, Dual Hubs". We have built the Beijing hub with high efficiency and high quality. The CSA base have been put into use simultaneously with Beijing Daxing International Airport, successfully completing the first flight and the transition of the first 13 routes. We have worked out a hub construction plan and supporting airline network planning and marketing strategy in terms of Beijing Daxing International Airport, ensuring a high-quality start and development of the Beijing hub. According to the plan, upon finishing the transition by the end of March 2021, the Group's market share in Daxing Airport will reach about 43%, and it will be the largest airlines in Daxing Airport. We have continuously broadened the "Canton Route", and promoted the coordinated development of the aviation market in Guangdong-Hong Kong-Macau Greater Bay Area, contributing to the construction of the world's firstclass bay area. During the reporting period, we have newly launched 3 routes including Guangzhou-Vienna, Guangzhou-Cebu and Guangzhou-Nagoya, with 66 international and regional routes in Guangzhou. We have served the construction of Shenzhen's pilot demonstration zone, promoted the coordinated development of Guangzhou and Shenzhen markets, and newly launched route from Shenzhen to Tokyo Narita International Airport. We have given full play to the scale advantages of CSA network and introduced 6 "Bay Area Link" products, including CSA express line, off-site transfer and crosscity airport pickup/drop-off, making it easier and more comfortable for passengers to travel. In 2019, the number of passengers served in Guangzhou hub increased by 6.3%, making the hub effect to emerge continuously. 3. Marketing During the reporting period, under the new market concept, the Group adhered to high-quality development and connotative development, and achieved results gradually. We emphasised the matching of transportation capacity and market, transportation capacity and price and strengthened revenue management. The Company continued to deepen and strengthen the reform in the field of marketing, promoted "comprehensive revenue" management and conducted centralised control of core resources. It aimed at maximising the marginal contribution and continuously adjusted and optimized the route network structure. It focused on the domestic market and performed steady international market development and the profitability of international routes continued to improve. We have further strengthened our customer base, given full play to our territorial advantages, vigorously expanding the Group's customers and frequent flyer. During the year, 9.22 million new Sky Pearl members were enrolled, increased by 62% year-on-year. The total number of Sky Pearl members reached 48.96 million, realising RMB51.7 billion of frequent flyer income, the round-trip flights of international and regional routes through Guangzhou hub has reached 66 CSA pearl members reached 48.96million, MEMBER representing an increase of 23% year-on-year increased by 18.32% year-on-year. There were 3,243 new major customers, accounting for 13.65% of the Group's revenue, increased by 1.9 percentage points year-on-year. We continued to enrich product shelves and introduced products such as self-service cabin upgrading and neighbour-free seats. During the year, the miscellaneous income increased significantly year on-year. We focused on the high-end businesses, sought changes, adopted differentiated competitive strategies, and effectively enhanced the income from belly-hold. We integrated freight resources and took the lead in launching a mobile online sales platform in China. CSA Advanced-Class Express product, temperature controlled product and other high-end emerging businesses increased by 14% year-on-year. 4. Cost Control During the reporting period, the Group continued to strengthen cost control and fund management. The Group has deepened the transformation of its financial control system, set up a business financial center, and promoted cost control from the source. The Group has adopted various measures to reduce financing costs and continuously optimise the debt structure. The effect of refined financial management was increasingly apparent. We have strengthened cost controls on major items, with the fuel consumption per ton kilometer decreased by 3.95% year-on-year. We strengthened all kinds of fund control and the concentration of funds continued to increase. We vigorously reduced the balance of funds, actively expanded financing channels, reasonably matched the debt maturity structure, and increased direct debt financing. We flexibly used various direct financing tools such as ultra-short-term financing bills, medium-term notes and corporate bonds to reduce the Group's financing costs. Measures such as hedging and optimising the US dollar debt stock were taken to hedge the exchange rate risk, greatly reducing the risk exposure and saving foreign exchange purchase cost of RMB50 million. The fuel consumption per ton kilometer decreased by 3.95% Saving foreign exchange purchase cost of 50million 5. External Cooperation During the reporting period, the Group advocated the cooperation concept of open and sharing, as well as accelerated the construction of a new type of international cooperation relationship and an international business model in line with the actual situation of the Company. We have fully protected the rights and interests of passengers and launched "CZ Priority" service brand to ensure the members enjoy the original privileges and realise a smooth transition for leaving SkyTeam Alliance. We have deepened cooperation with mainstream airlines such as American Airlines, British Airways, Emirates and Qatar Airways. We have also continued to consolidate cooperation with member airlines of SkyTeam Alliance such as Air France-KLM and Delta Air Lines independently. We have strengthened in-depth exchanges with international partners, absorbed management experience in operation, flight, transportation and service of world-class airlines, and steadily pushed forward internationalisation. Currently, the Company has cooperated with 28 domestic and foreign airlines such as American Airlines, British Airways, KLM Royal Dutch Airlines and Qantas Airways on 531 routes (including trunk routes and longdistance flight routes) for code-sharing. Xiamen Airlines has cooperated with 21 domestic and foreign airlines on 578 routes (including trunk routes and long-distance flight routes) for code-sharing, further expanding the sales channels and route network of the Group. 6. Service Brand During the reporting period, the Group fulfilled sincere service concept and systematically improved the whole process service experience of passengers. We have innovated the service mode and improved the service experience of delayed passengers regarding sales, service and information acquisition. We have implemented the requirement of "affinity and refinement", introduced two-cabin "family service 360" products, expanded 195 fine "Kapok International" routes, and achieved full coverage of international long-haul routes and regional key routes. We promoted the baggage tracking program in an all-round way and became the first airline in Asia obtaining IATA baggage tracking compliance certification. We have implemented the upgrade of "China Southern e-Travel", and the paperless self-service in the whole process has brought more convenient travel experience to passengers. In 2019, the proportion of non-counter check-in passengers reached 79.3%, ranking top among major domestic airlines. The overall satisfaction of passengers of the Company increased by 1.38% year-on-year. The Company has co-operated with 28 domestic and foreign airlines on 531routes 6. Service Brand During the reporting period, the Group fulfilled sincere service concept and systematically improved the whole process service experience of passengers. We have innovated the service mode and improved the service experience of delayed passengers regarding sales, service and information acquisition. We have implemented the requirement of "affinity and refinement", introduced two-cabin "family service 360" products, expanded 195 fine "Kapok International" routes, and achieved full coverage of international long-haul routes and regional key routes. We promoted the baggage tracking program in an all-round way and became the first airline in Asia obtaining IATA baggage tracking compliance certification. We have implemented the upgrade of "China Southern e-Travel", and the paperless self-service in the whole process has brought more convenient travel experience to passengers. In 2019, the proportion of non-counter check-in passengers reached 79.3%, ranking top among major domestic airlines. The overall satisfaction of passengers of the Company increased by 1.38% year-on-year. The Group strengthened the promotion of brand image overseas, ranking first in the overseas image communication index of central enterprises for two consecutive years. We actively participated in international exhibitions in key overseas markets, reaching more than 200,000 industry representatives and mainstream customers around the world and promoting the Company's important products and services. We sponsored Sydney Festival and the Australian Football League (AFL), targeting more than 10 million Australian local TV audiences and gaining more than 9 million online exposure, and went deep among the international mainstream to promote our brand and international image. In the Top 50 Most Valuable Airline Brands 2019 released by Brand Finance, CSA ranked first among Chinese airlines. 7. Reform and Development During the reporting period, the Group continuously intensified its reform efforts and consolidated its development foundation. We steadily pushed forward the "Double Hundred Action", set up CSA Freight Logistics Co., Ltd. (中國南方航空貨運有限公司) and continued to improve the mixed-ownership reform plan for SAGA. We implemented a completely new salary system for employees and established a complete post management system, a total salary increase mechanism and an employee salary increase mechanism. We continued to deepen the marketoriented reform, continued to push forward the reform of the regional marketing system, and set up the European marketing center. We also continued to promote scientific and technological innovation and information construction, established the Department of Scientific and Technological Information & Process Management, and built up our core competitiveness. We revised and improved the Development Outline of Building World-class Air Transport Enterprises with High Quality, giving more prominence to quality, efficiency and performance. We formulated the Action Plan to Serve Guangdong-Hong Kong-Macau Greater Bay Area to promote the integrated development of GuangzhouShenzhen hubs. We strengthened the cooperation of "China Southern Alliance", signed group customer settlement agreements with Xiamen Airlines and Sichuan Airlines, carried out route cooperation with Xiamen Airlines on 52 flight segments, and deepened marketing cooperation with Sichuan Airlines on 10 flight segments. 8. Social Responsibility The Group has always taken green development as one of its core principles. During the reporting period, we continued to improve the efficiency of aviation fuel usage and reduce greenhouse gas emissions through technological optimisation, management improvement and big data analysis. We participated in the formulation of global aviation oil data standards and provided a Chinese proposal for the formulation of global aviation data standards. We applied bioaviation oil to carry out intercontinental flights for the first time, and promoted the world's first 10,000-ton EU carbon quota and Guangdong carbon quota swap business.

China Southern Airlines

"Dear friends: Thank you for your help and support to Hainan Airlines as always! The year 2018 was the 40th anniversary of China's Reform and Opening-up and the 30th anniversary of the establishment of Hainan Province as a special economic zone. Presently, the Party and the state are fully supporting the construction of
free trade pilot zone of the entire Hainan Island. As a national airlines brand based in Hainan, Hainan Airlines has ushered in the golden age for development. Looking back at 2018, with difficult external operation conditions, Hainan Airlines fully implemented the work requirements of "Focusing on the Main Business of Airlines, Seeking for Healthy Development" of the HNA Group, strictly adhered to the safety bottom lines, vigorously improved operation quality and service quality, deepened the effectiveness of resource integration, fully promoted the improvement of operation efficiencies and realized the safe and stable operation of the Company. In 2018, Hainan Airlines strived to connect the world with its network of airlines and access more untouched distant places with over 2,000 domestic and international air lines. In 2018, we focused on details and brought surprise and amazement to the passengers in high-quality flight experience by adding highlights to originally bland flight experience with brand new fleet, comprehensive safety guarantee, all-round seamless aviation services. In 2018, we were awarded the SKYTRAX Five Star Award for the eighth time and ranked 8th among the best airlines in the world. We also established a safe flight record of over 7 million flight hours. In 2018, we stayed true to the mission of green and low carbon responsibilities, intensified the promotion of the brand of "Green Airlines" and continuously worked on the Green Tour Program. With an annual oil saving of 125,000 tones and 30 new energy saving and emission reduction projects, the Company was awarded the honorable title of "Top 100 Green Gold Enterprises on Ecological Civilization". In 2018, we implemented electronic release to help passengers to travel in a more environmentally friendly manner. In 2018, we pulled together the "hearts" and forces and spared no efforts in realizing shared development and assisting in the construction of harmonious society. We actively undertook social responsibilities and completed various special missions with high standards and strict requirements. We sincerely cared for our employees, protected their interests and rights and helped them in personal growth and career development. We adhered to the corporate culture spirit of "Making Contributions to the Society, Making Contributions to Others" and carried on public welfare activities such as "Change for Good", "Bring Love Home" and "For Future". In addition, we granted subsidies to the sick, disadvantaged population and poor college students and repaid the society with gratitude. Time and tide wait for no man. The year 2019 is the 70th anniversary of the founding of New China and the key year for the successful completion of building a moderately well-off society in an all-round way. At the historical period of realizing the Two Hundred-year Goals", We will continue to implement the work requirement of "Focusing on the Main Business of Airlines, Seeking for Healthy Development", strive to build a new era, realize the dream of Hainan Airlines together, inherit the culture of Hainan Airlines, promote the spirits of Hainan Airlines, pull together hearts and efforts on development, and seek for new achievements with accumulated energies. "

Hainan Airlines

As an Omani, I am very proud to be in a position to serve our national airline. It is immensely gratifying to be associated with an airline that consistently receives worldwide recognition from the rest of the industry for setting the highest standards in commercial aviation. 2017 is no exception as the past year has been a stellar one for Oman Air. Awards we have won include four World Travel Awards, Seven Stars Luxury Lifestyle and Hospitality Awards, Skytrax World Airline Awards and the Frontier Awards recognising our inflight retail. Our guests and the rest of the industry continue to applaud our unbeatable product offering and inflight service which plays an integral role in our success; increasing our passenger numbers and expanding our network. Despite the turbulent times we are operating in, traffic has grown significantly this year as we saw passenger numbers in 2017 grow to over 8.5 million, an 11 percent increase from figures the year before. Our Available Seat Kilometre (ASK) has therefore increased to 19% from 24.79 billion ASKs to 29.405 billion ASKs with flight movement increasing from 51,952 to 54,746 – a 5.4% increase over the previous year. How have we managed this? I believe the key is differentiation and one key differential is our world renowned Omani hospitality. This plays a vital role in the award-winning service that we provide and is a major reason why guests continue to fly with us time after time and passenger numbers continue to grow. The positive indicators also mean an increase in the contribution to the country's GDP to over RO 600 million. In 2017, we have continued to be committed to ensuring that we not only look after our staff but also actively contribute to the development of boosting a sustainable society through investing in various public institutions. We have also demonstrated our commitment to the development of SMEs and supporting various initiatives. Our CSR policies were recognized in 2017 with the "Pay it Forward" award for airlines and companies that have done exemplary work for their communities by PAX International Magazine. In 2017, we have continued with our policy of Omanisation and this is not just limited to front line staff. This policy is at the very heart of our organisation and 67% of the workforce is now Omani; we now have nearly 5,000 Omani employees and we aim to ensure that our staff share the same values and commitment to the ongoing success of the airline. It is this Omani spirit that will ensure we get through the difficult times. We will strive to use our talent and tenacity to work together to determine a bright future. This year we have taken pioneering steps to fill senior posts with Omani candidates and can offer outstanding career development prospects with staff being rewarded with promotions and opportunities across the globe. Much of the recent recruitment has been centered on the needs of flight operations, to serve the expansion of the fleet. Roles recruited include captains, cabin crew, flight operations, ground handling and customer service agents; this has now expanded to include very senior positions. Oman Air's contribution to the nation's growth is possible due to Oman Air's resilient plans that is ably supported by its respected Chairman and members of the Board. While the yield fell by 5%, we recorded an increase in the number of flights to 33,491 from 30,978 in 2016 and an 87% on time performance (15 minutes), as against the 85% in 2016. Whereas we are focused on our staff and our responsibility to the residents of the Sultanate of Oman, we have also been determined to continue to meet the ever-changing needs of our guests. Despite facing many cost cutting challenges and the constant pressure to operate as efficiently as possible, we have introduced several measures to ensure we continue to deliver exemplary customer service. Our loyalty programme Sindbad has now reached over 500,000 members and is a reflection of our ongoing commitment to rewarding and forming genuine connections with guests. 2017 has also seen the roll out of new call centres in Gurgaon (New Delhi) in India, Bucharest in Romania and Kuala Lumpur in Malaysia, demonstrating our continued commitment to providing excellent customer service and a seamless passenger experience. By maintaining our focus on the guest experience and developing our workforce of highly skilled and dedicated employees, I believe that we will be in a strong position to continue with our expansion plans, grow our network and increase passenger numbers. There is no doubt that the current trading environment continues to be difficult for all airlines, but I am confident that if we remain firm; adhere to our original plan and continue to grow, we will be in good shape to face the challenges created by the ever-changing world economy and political landscape. I would like to thank our esteemed Chairman His Excellency Dr. Ahmed Al Futaisi and respected members of the Board for their support and guidance thereby making it possible for all of us at Oman Air to achieve our goals and objectives despite the challenges.

Oman Air

Delivering more for our customers. Highlights 5.4 million passengers flown 2.8 £bn in revenue 46 aircraft in our fleet 1st commercial flight using LanzaTech's sustainable aviation fuel 14 We overcame significant macroeconomic and operational challenges to deliver more for more customers in 2018. On virtually every measure, Virgin Atlantic has become a stronger and more resilient business. 2018 was the concluding year of our four year Plan to Win. We delivered most of our core financial and operational objectives. Over the last four years we have strengthened our finances and balance sheet while achieving a material uplift in operating performance. On virtually every measure be it on time performance, liquidity, customer Net Promoter Scores or costs, Virgin Atlantic has become a stronger and more resilient business. Some key events beyond our control ultimately compromised the profit targets of Plan to Win. The most important were the devaluation of Sterling, our main operating currency, after the EU referendum result and the continuing Rolls-Royce engine supply issues affecting our 787-9 aircraft. Our new plan, Velocity, starts in 2019 and will run for three years to 2021. The ambition of this plan is simple: to become the most loved travel company. We will continue with operating improvements, unit cost reductions, fleet transformation and network enhancements. Our expanded transatlantic joint venture adds Air France and KLM to our existing partnership with Delta and we will also welcome Air France-KLM Group into our share capital. Increased profits and continuing reinforcement of our financial position are at the heart of Velocity. With one enormous caveat, we look forward to the next few years with great confidence and enthusiasm. The caveat, of course, is the chaotic process of Brexit and the unpredictable consequences which will follow. To have to write these words less than three weeks before the planned leave date is both astonishing and intolerable, but it is reality. At this point we are confident in our ability to operate our full flying programme in the immediate aftermath of a no deal exit. We have also made contingency plans to mitigate other concerns such as a further depreciation of Sterling and delays within our supply chain. As to the longer term, one prediction is obvious: if the UK should leave the EU with no deal there's only a significant downside for our business and for the economy of the UK as a whole. This year We overcame significant macroeconomic and operational challenges to deliver more for more customers in 2018. We flew over 5.4m passengers, an increase of 4.8% on the prior year. The ongoing weakness of Sterling coupled with a higher fuel price environment provided a difficult market environment. The 787-9 Rolls-Royce Trent 1000 engine supply issue also continued throughout the year. But we performed strongly on the factors within our control – customer experience, operational excellence, unit revenue generation and cost management – which meant that we offset much of the worst effects and managed to beat our 2017 financial result by £23m.1 Leadership After six years as Chief Executive, Craig Kreeger retired on 31 December 2018. I had the privilege of working with Craig throughout his tenure. He and his senior team have transformed our business without compromising what makes it special. Craig oversaw positive reform in virtually every aspect of our business; significant network changes, the renewal of our fleet, the successful implementation of our joint venture with Delta and the replacement of our passenger service systems. On behalf of the Board, I would like to express our great thanks to Craig for all that he has done for Virgin Atlantic and our people. Shai Weiss assumed the position of Chief Executive on 1 January 2019. Shai is Craig's natural successor having served since 2014 as Chief Financial Officer and more recently as Chief Commercial Officer. Shai brings a deep experience of Virgin Atlantic, a strong passion for our people and a clear vision for our future. I have tremendous confidence in his ability to deliver an outstanding performance for Virgin Atlantic. More to come Brexit and politics aside, 2019 will be an exciting year for our people, our customers and our business. We will welcome the A350-1000 to the fleet, boasting a totally transformed onboard experience for our customers and staff to enjoy. We anticipate receiving full regulatory approval for our expanded transatlantic joint venture, enabling us to provide more choice and connectivity, stronger competition and an enhanced loyalty proposition. We will significantly enhance our ability to pair up flight and hotel bookings by working even more effectively between Virgin Atlantic and Virgin Holidays. We will continue to enhance our other airline partnerships, including completing the acquisition of Flybe and Stobart Air in partnership with Stobart Group and Cyrus Capital Partners. The combination of Flybe and Stobart Air in a deep partnership with Virgin Atlantic will create a fully fledged UK network carrier under the aegis of the Virgin Atlantic brand. This exciting combination will offer significant consumer benefits, a comprehensive regional network in the UK and

Ireland, as well as an enhanced European footprint. Because of this, we will provide greater connectivity and choice for customers right across the country to travel to destinations all over the world, especially via Heathrow and Manchester. Looking further ahead, Heathrow expansion remains a priority. Our ambition is clear; to become the second global network carrier at the nation's hub airport, providing more effective competition on more longhaul routes and introducing significant new competition on domestic and shorthaul routes. This will require a unique reform of the slot allocation rules for Heathrow expansion. We are pleased that the Government's Aviation Strategy Green Paper in December recognised the need for this reform and will continue to make the case for change in 2019. Doing business for good We continue to enhance our customer experience and address our environmental impact by welcoming the final three Boeing 787-9 aircraft, bringing our total fleet to 17. Unfortunately, the ongoing industry wide engine supply issue meant we could not operate all of our 787-9s at the same time and therefore retire the aircraft they were set to replace. We introduced four additional A330-200s to operate our full flying programme and to protect our customers from disruption. This was the right thing to do, but as a result our carbon efficiency result is almost the same as last year. We should return to further efficiency improvements in 2019 as we begin taking delivery of our A350-1000 aircraft and as the engine supply issue improves. 2018 was a landmark year in our seven year partnership with cleantech company LanzaTech. Their groundbreaking sustainable aviation fuel made by recycling carbon from industrial waste gases was qualified for use in commercial aircraft early in the year. We operated the world's first commercial flight using this innovative fuel in October between Orlando and Gatwick, demonstrating its potential to governments and investors. The generosity of our customers and our people in supporting our charity and non profit partnerships is a source of great pride. Virgin Atlantic Foundation's onboard Change for Children appeal raised almost £690k and our annual employee fundraising campaign raised just over £135k for our much loved partner WE. Our sincere thanks to Virgin Holidays customers who contribute £1 per adult and 50p per child for every holiday sold. We've continued to support the Branson Centre for Entrepreneurship in Jamaica with a £200k donation, supporting local entrepreneurs and the regional economy. The Virgin Holidays staff fundraising campaign is supporting UK charity Dreams Come True and has already raised £27k of their £30k April 2019 target. Board I want to thank my colleagues who have made a huge contribution to the Board and its Committees during the year. I would also like to welcome Mark Anderson, EVP Customer, to the Board, replacing Craig. Our people On behalf of the Board and shareholders, I thank everyone at Virgin Atlantic and Virgin Holidays for their dedication and commitment. 2018 has presented challenges that have affected just about every part of the business. And as ever, our people rose to the occasion. Achieving a final result ahead of 2017 is testament to their hard work, skill and desire to deliver for our customers every time.

Virgin Atlantic