

Private Aviation in Southeast Asia

Are the opportunities worth the challenges?

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Overview

There are many reasons which drive the demand for private jet ownership and charter. Some see it as a status of wealth, while others appreciate the flexibility private aviation services provide for their holiday itineraries or business schedules. Private jets also provide access to a far larger number of airports which are unable to accommodate larger commercial airliners - bringing passengers closer and faster to their destination. Neither do passengers have to risk getting stuck in long security lines or flight delays. Increasingly, private jets are also used to serve as private offices in the sky which raise productivity. For instance, NEXA Advisors' most recent study on business aviation and the world's top performing companies concluded that companies using business jets were likely to outperform non-users on revenue growth, innovation, employee satisfaction and market share¹. With a variety of reasons justifying the consumption of private aviation services, coupled with rising global wealth, demand is likely to only rise.

¹ Private air travel: a luxury or a necessity? (n.d.). Retrieved from <http://www.klasjet.aero/en/news/view/private-air-travel-a-luxury-or-a-necessity>

Foreword

This horizon scanning report on aviation by Quest Ventures on the opportunities in Southeast Asia's private aviation is the result of cross sectional research and analyses done on the vibrant private aviation sector. Our evaluation concludes that Asia's large population and wealth is in a good position to tackle flexibility issues and empower efficient private travel. However, regulations hamper. Unless political will aligns with consumer demand, not much would change.

A new era for the private aviation industry will likely arrive once ASEAN governments commit to liberalising their airspace and airports, building and upgrading airport facilities and having a regional agency coordinating air traffic and setting implementable safety standards.

Until such conditions present themselves, new entrants would have to work within the operational constraints which perpetuates inefficiency. They would also have to compete against experienced operators and brokers who have eased such inefficiencies by establishing strong working relationships with various stakeholders around the region.



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Market Trends and Insights

According to Wealth-X, the typical global jet owner is 63.6 years old, with an average net worth of US\$1.66 billion. They spend about 1.0% of their net worth on private aircraft, with an average value of US\$16.4 million per plane². Operating it, however, would set you back another US\$700,000 to US\$4 million³. Those who have decided that plane ownership is out of their price range, but still want to enjoy its benefits may then opt to charter a plane. According to Singapore jet charter service provider, Paramount Business Jets, Light Jets⁴ start at US\$2,200 per hour. Mid-Size Jets start at US\$2,800 per hour. Super Mid-Size Jets start at US\$3,800 per hour, and Large Cabin Jets start at US\$4,500 per hour⁵. Brad Stewewart, CEO of XOJets, a private jet charter company, says that his clients spend several hundred thousand dollars on consumption of private aviation services each year - with net worths around US\$30 million to US\$40 million⁶.

While these figures may seem outlandish, new business models which allow for jet-sharing may just make private jet travel accessible to ordinary High Net Worth Individuals⁷ (HNWIs). As such, while it is unlikely that ordinary HNWIs may purchase their own plane or frequently charter entire private jets, we will include the growth of HNWIs in our analysis of overall future demand for private aviation services.

² Private Jets and Ultra Wealthy Individuals - Wealth-X Study. (n.d.). Retrieved from <http://www.wealthx.com/private-jets-ultra-wealthy/>

³ Parker, T. (2020, January 29). The Economics of Private Jets. Retrieved from <http://www.investopedia.com/articles/personal-finance/063015/economics-private-jet-charters.asp>

⁴ Description of different jet classifications can be found in Annex A.

⁵ Singapore Private Jet Charter Flights, Prices and Aircraft for Hire. (n.d.). Retrieved from <https://www.paramountbusinessjets.com/cities/singapore-singapore.html>

⁶ (n.d.). Retrieved from <https://www.bloomberg.com/news/articles/2016-04-26/hey-stranger-do-you-want-to-borrow-my-private-jet>

⁷ HNWIs are defined as those having investable assets of US\$1 million or more, excluding primary residence, collectibles, consumables, and consumer durables.

Growing Wealth

It is generally thought that a global increase in population of HNWI and Ultra High Net Worth Individuals⁸ (UHNWIs) will generate growing demand for private jet orders and on-demand private jet charter⁹.

HNWIs

According to a Cap Gemini SA report, although growth has been modest, global HNWI wealth has continued to hit new record highs, with Asia Pacific overtaking North America as the top wealth market in the world¹⁰.

Global HNWI wealth is projected to nearly triple in size from 2006-2025 to surpass US\$100 trillion by 2025, with China and Japan leading the pack - both registered double-digit increases in both the HNWI and UHNWI populations.

As such, Asia Pacific (APAC), and by cautious extension, Southeast Asia (SEA) is likely to remain a strong market, with the APAC region accounting for two-fifths of the world's HNWI wealth over the next decade¹¹.

UHNWIs

Excluding Latin America which has faced disappointing growth, global UHNWI wealth has grown more than the other wealth segments over the last few years. The ranks of Asian UHNWIs are set to expand by 66% over the next decade, compared with 27% growth in Europe¹².

However, the results of The Wealth Report Attitudes Survey¹³ conducted by Knight Franks, which was based on responses from

⁸ UHNWIs are defined as those having investable assets of US\$30 million or more, excluding primary residence, collectibles, consumables, and consumer durables.

⁹ Asian Sky Group: Asia-Pacific Business Jet Charter Report Summer 2016
<https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58be30b99de4bb249cb0d9a8/1488859357451/Charter+Report.pdf>

¹⁰ (n.d.). Retrieved from
<https://www.bloomberg.com/news/articles/2016-06-23/asia-pacific-region-wealth-exceeds-north-america-for-first-time>

¹¹ (n.d.). Retrieved from
<https://www.worldwealthreport.com/Global-HNWI-Population-and-Wealth-Expanded>

¹² The Wealth Report 2020. (n.d.). Retrieved from
<http://www.knightfrank.com/wealthreport/2016/wealth-distribution/uhnwi-growth-2016>

¹³ Knight Frank: The Wealth Report 2017 (n.d.). Retrieved from
<http://content.knightfrank.com/research/83/documents/en/the-wealth-report-2017-4482.pdf>

almost 900 of the world's leading private bankers and wealth managers provide an important caveat.

The survey revealed that only 15% of UHNWIs use private aviation for the majority of their business and personal flights. Latin Americans were the biggest users, with 40% opting to go private. In Asia, just 9% of UHNWIs routinely travel on non-commercial flights.

Billionaires

A 71% surge in the number of Asian billionaires¹⁴ over the next decade will take the total to 832, nearly neck and neck with the US, where the population by then will be 840. Europe is forecast to be home to around 569 billionaires in 2025.

¹⁴ Individuals with a net worth in excess of US\$1 billion.

New Innovations

Hardy Sohanpal of international charter operator Global Jet Concept, believes that private jet numbers are likely to rise as the desire to travel efficiently with maximum privacy becomes more of a priority for corporations and private individuals.

Sohanpal adds that, "The introduction of new apps and charter models that are competing to become the Uber of the airways is also likely to attract those who shuttle frequently between cities travelling first or business class."¹⁵

That is exactly what founder of JetSmarter, a digital/mobile private jet marketplace, Sergey Petrossov plans to do. Talking about the common underutilization of jets which have to fly routes empty to reposition itself, Petrossov explains that "those empty seats and flights can be offered to travelers for less than the typical price of chartering a jet and for a fee that may be at least in the same ballpark as the cost of a first class ticket."¹⁶

JetSmarter, which allows members to book individual seats on private jets would also make flying on a private jet far more affordable. For example, it costs US\$12,000 to charter a small 4 seater from New Jersey to Miami on a weekday, according to PrivateFly. A JetSmarter member would pay US\$2,000 to book a seat, and other members can hitch a ride at no charge. Membership costs US\$15,000 for the first year.

However, such business models are currently unavailable within SEA.

Despite the finding that just 9% of Asian billionaires travel by air privately, the expected increase in wealth across Asia and SEA is still an indicator that demand for private aviation services will only rise. With business models like jet-sharing drastically reducing the cost of private air travel and making it more accessible to the 'merely rich', demand is only set to grow. However, the question remains as to whether Asia, and consequently SEA, is able to keep up with the forecasted rise in demand.

¹⁵ Knight Frank: The Wealth Report 2017 (n.d.). Retrieved from <http://content.knightfrank.com/research/83/documents/en/the-wealth-report-2017-4482.pdf>

¹⁶ Skift Website: JetSmarter Is the Latest On-Demand Private Jet Company to Raise Millions (n.d.). Retrieved from <https://skift.com/2016/02/22/jetsmarter-is-the-latest-on-demand-private-jet-company-to-raise-millions/>

Southeast Asia Aviation Environment

To accommodate the forecasted increase in demand for private aviation services, there has to be appropriate increase in the capability and capacity of the aviation operating environment. Yet, surmounting challenges remain as we survey the existing conditions of SEA's aviation environment.

Poor Regional Airspace Navigation Coordination

The US have the Federal Aviation Authority (FAA), which issues and enforces aviation safety regulations, operates air traffic management and air navigation facilities, as well as research and development for safer and more efficient systems¹⁷.

The European Union (EU) has the European Aviation Safety Agency (EASA), which develops common safety and environmental rules, monitors the implementation of standards and provides the necessary expertise, training and research for Member States¹⁸. While Eurocontrol co-ordinates the region's air traffic control¹⁹.

Unlike the more developed US and European market, the Association of Southeast Asian Nations (ASEAN) has no regional regulatory body overseeing aviation safety or coordinating air traffic control²⁰. This results in air traffic within the region not operating as efficiently and safely as it can be.

Poor state of Air-Traffic-Control Technology

Some traffic controllers in Asia still rely on information radioed in from pilots and other airports, manually entering the information and calculating aircraft spacing. This takes more time and occupies more mental capacity.

Even if countries like Singapore, Malaysia, Thailand and Indonesia modernize their air traffic management systems, connecting all these systems across Asia presents a further challenge. Countries are at

¹⁷ Federal Aviation Authority Website (n.d.). Retrieved from <https://www.faa.gov/about/mission/activities/>

¹⁸ European Aviation Safety Agency (n.d.). Retrieved from <https://www.easa.europa.eu/faq/19224>

¹⁹ Eurocontrol Website (n.d.). Retrieved from <http://www.eurocontrol.int/articles/our-role>

²⁰ CNBC: Southeast Asia's aviation boom shows a patchy safety framework (n.d.). Retrieved from <http://www.cnbc.com/2015/01/08/southeast-asias-aviation-boom-shows-up-patchy-safety-framework.html>

different stages of development and governments have no incentive to cooperate²¹.

According to the Wall Street Journal, Asia has become one of the world's most-trafficked areas for planes, and is set to become even busier, thereby further challenging local airlines, airports and air-traffic controllers to keep the skies safe.

Poor Airport Infrastructure

A PwC report²² on the state of Asia's airport infrastructure found that most major Asian hubs are already operating above their planned capacity whilst even secondary hubs are starting to experience capacity strains. This has resulted in a rapid escalation of delays since 2010.

With the exception of airport passenger queues and security checks, private jets would not be exempt from long queues for take-offs, circling above the runway prior to landing, and an increasing scarcity for take-off and landing slots.

The WSJ reports that nations such as Indonesia and the Philippines have not invested enough in airport facilities to keep up with the demand, especially in second-tier cities. Some runways, adapted from old military airfields, are too short or are badly designed for good drainage, and some lack modern landing navigation systems or proper runway lights²³.

Shortage of Aviation Professionals

There is an expected shortage of qualified and experienced aviation professionals (pilots, mechanics and engineers) in the future, which would likely drive up labour costs and reduce operational flexibility.

²¹ Wall Street Journal: Five Major Risks to Flying in Asia (n.d.). Retrieved from <http://graphics.wsj.com/asia-aviation/>

²² PwC: Airport infrastructure in Asia Coping with the demand surge (n.d.). Retrieved from <http://www.pwc.com/gx/en/capital-projects-infrastructure/pdf/pwc-airport-infrastructure-in-asia.pdf>

²³ Wall Street Journal: Five Major Risks to Flying in Asia (n.d.). Retrieved from <http://graphics.wsj.com/asia-aviation/>

Boeing, one of the largest aircraft manufacturers in the world, projects that the Asia-Pacific region will need 216,000 new pilots in the next 20 years, more than in any other part of the world, accounting for 40 percent of the global demand²⁴.

²⁴ The San Diego Union Tribune: Rapidly-growing Asian airlines race to find qualified pilots (n.d.). Retrieved from <http://www.sandiegouniontribune.com/sdut-rapidly-growing-asian-airlines-race-to-find-2015feb04-story.html>

Business Models

Private Jet Buying Market

Market Insights

Jet orders are forecasted to be a US\$248b industry from 2016-2025, with Asia-Pacific taking 10% of total orders²⁵.

While the US (12,717), Mexico (950) and Brazil (786) are the top three nations by some margin when it comes to fleet size, JETNET's figures show numbers are rising fast in Asia. Hong Kong (+535%), Taiwan (+367%), China (+347%) and Macau (+300%) all feature in the top 10 list of locations where growth has been fastest over the past 10 years. China, with 277 jets, now claims eighth position in overall ownership levels²⁶.

Richard Koe, Managing Director of industry analyst, WINGX, has also remarked that it would not be unusual for firms with a turnover of US\$50m to have its own plane, further validating the demand for private jet orders. He adds that the Chinese market is set to see strong growth as the government begins to recognize the importance of business jets as a competitive tool to support corporations pursuing regional trade opportunities.

Demand for private jets in SEA is growing as indicated by Dassault Falcon senior vice-president of international sales Jean-Michel Jacobs, who sees rising demand in SEA compensating for China's economic slowdown. "We have a lot of inquiries and deals in process... about twice as much activity as we had two years ago," he told The Straits Times in 2016²⁷.

²⁵ JetCraft 10 Year Market Forecast 2016 (n.d.). Retrieved from <http://jetcraft.com/outlook/Jetcraft-10-Year-Market-Forecast-2016.pdf>

²⁶ Knight Frank: The Wealth Report 2017 (n.d.). Retrieved from <http://content.knightfrank.com/research/83/documents/en/the-wealth-report-2017-4482.pdf>

²⁷ Straits Times: Private jet makers upbeat on S-E Asia amid China slowdown. Retrieved from (n.d.). <http://www.straitstimes.com/singapore/private-jet-makers-upbeat-on-s-e-asia-amid-china-slowdown>

Private Jet Charter Market

Market Insights

On-demand jet charter, which allows use with no commitment and a pay-as-you use structure, remains the most popular option for clients in the industry²⁸.

Typical jet charter clients tend to be casino operators, Fortune 500 companies and MNCs. As demand rises, clients would typically want to ensure operators have international-level qualifications: IBAC's IS-BAO stage I,II,III, Wyvern Wingman, ARGUS Gold or Platinum or the Flight Safety Foundation's (FSF) BARS audit²⁹.

Jet charter demand in Asia tends to spike during public holidays (Chinese New Year and Western holidays), World Economic Forums (G8, G20, ASEAN meetings), ASEAN meetings and major sporting events (Super Bowl, World Cup, Olympics). It then tends to slow during the summer where charter demand shifts to Europe and the US³⁰.

As touched on previously, infrastructure status, airspace limitations, and regulations remain the biggest challenges when operating a charter throughout the region. Many landing and takeoff slots are tightly regulated with long application processes. Further compounding operating conditions are unfriendly cabotage³¹ rules, aircraft overnight parking restrictions and long lead times for permit requests.

Hong Kong, Macau and Singapore are the most charter-friendly locations in the Asia-Pacific region as they are known for their free-market, efficient-regulation and respect of liberties. Despite a chronic shortage of parking space and take-off slots, Hong Kong remains the most convenient, efficient and preferred destination for charter clients due to its central location in APAC³².

²⁸ Asian Sky Group: Luxury Chartering Jan 2017 . (2017, January 1). Retrieved from [https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury Charter Launching EN.pdf](https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury+Charter+Launching+EN.pdf)

²⁹ Asian Sky Group: Luxury Chartering Jan 2017 . (2017, January 1). Retrieved from [https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury Charter Launching EN.pdf](https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury+Charter+Launching+EN.pdf)

³⁰ Asian Sky Group: Luxury Chartering Jan 2017 . (2017, January 1). Retrieved from [https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury Charter Launching EN.pdf](https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury+Charter+Launching+EN.pdf)

³¹ Cabotage," formally defined as "air transport of passengers and goods within the same national territory." Aircraft Owners and Pilots Association Definition

³² Asian Sky Group: Luxury Chartering Jan 2017 (2017, January 1) Retrieved from <https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury+Charter+Launching+EN.pdf>

For a glimpse of the application process, the extensive list of documents to operate a single charter flight in APAC can be found in Annex B. Aviation governing bodies in each country can also change the rules and requirements without prior notice at any time. This can affect not only the local charter market, but any foreign-registered aircraft chartering a jet into the particular country.

Traditional Jet Charter Operators and Brokers

Charter operators charter out their own or a partner network's fleet to clients, while brokers are intermediaries who reach out to a network of operators, get a quote, mark it up, and sell it to clients. Operators usually carry out brokerage services as well.

The most common business models of traditional jet charter operators are on-demand charter, jet cards and memberships.

Luxaviation Asia (Singapore based, SEA operations)³³

Began charter operations out of Singapore in 2014, catering to the whole of SEA. Operates more than 260 aircraft according to the most stringent safety standards. Provides brokerage services around the world, aircraft management, flight solutions and support³⁴. Quotes only available upon request.

Asia Jet (Hong Kong based, international operations)³⁵

Full service company which offers on-demand aircraft charter, Jet Card membership, consultancy and aircraft management services. Both the Black Card and Corporate Card offer access to the entire Asia Jet and global network fleet. Instant quotes available on site. A test search for a round-trip flight from Singapore's Changi International Airport to Vietnam's Tan Son Nhat International Airport begins at US\$31,850 for a turboprop, and US\$46,850 for a heavy jet.

Javajet (Jakarta based, Asia operations)³⁶

Specialises in private jet charter in Asia. Quotes only available upon request.

³³ Luxaviation Website. (n.d.). Retrieved from <https://www.luxaviation.com/en/>

³⁴ Asian Sky Group: Luxury Chartering Jan 2017. (2017, January 1) Retrieved from <https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury+Charter+Launching+EN.pdf>

³⁵ Asia Jet Website. (n.d.). Retrieved from <https://www.asiajet.com/en/>

³⁶ Javajet Asia Website. (n.d.). Retrieved from <http://www.javajetasia.com/>

Fractional Operators

Fractional operators buy private jets and then sell shares of the jets to several owners. Each shareholder then receives the right to fly the jet for a fixed number of hours.

Executive Jets Asia (Singapore based, Asia operations)³⁷

Offers 6 shares per jet with one share costing US\$800,000 for the Hawker 700 or US\$1.2m for the Hawker 800. Each share entitles the owner to 70 hours of free usage of the aircraft, with an additional nominal fee of US\$100,000 per year, from the first year onwards. Jet will be sold at the end of 5 years, with equal sharing in the sales proceeds.

NetJets Inc (US and Europe)³⁸

A subsidiary of Berkshire Hathaway, NetJets was the first ever private jet charter company to come up with the fractional ownership model. The smallest share you can purchase is 1/16 interest, which gives you 50 hours of flight time a year for a cost of approximately US\$550,000 with additional monthly management fees of US\$9,600. The largest share possible is ½ interest, or 400 hours of flight time at an approximate cost of US\$4.4 million with monthly management fees of US\$60,000. Occupied hourly fees which covers fuel, maintenance, catering costs US\$1,950 an hour. NetJets owners sign up for a two-year, two-and-a-half-year or three-year commitment, depending on the size of the aircraft, and NetJets has a guaranteed buy-back option after that commitment is up³⁹.

NetJets also offer a pre-paid Marquis Jet Card which allows clients to buy 25 hours of flight time. A single year starts at US\$119,000 for a light jet, excluding taxes and additional surcharges.

³⁷ Executive Jet Asia Website. (n.d.). Retrieved from <http://www.executivejetsasia.com/>

³⁸ NetJets Website. (n.d.). Retrieved from <https://www.netjets.com/Home/>

³⁹ Forbes Travel Guide: How much does a private jet flight cost with NetJets? (n.d.). Retrieved from <http://www.forbestravelguide.com/partner/netjets/how-much-does-a-private-jet-flight-cost-with-netjets>

Jet Charter/Sharing Mobile Apps

According to JetSmarter CEO Petrossov, the average private plane has less than 30 percent load factor⁴⁰ during trips, while 35 percent of trips are completely empty⁴¹. Jet Charter or Jet Sharing apps seeks to eliminate this inefficiency by providing a mobile platform which matches this excess capacity to demand. It also seeks to bypass traditional charter brokers by letting customers book a flight directly from plane owners/operators through the app. As a result, prices tend to be lower, making private aviation more accessible to a wider market.

APAC apps

JetSteals (India based, India, Dubai, New York operations)⁴²

India-based mobile app is the first online marketplace for private jet and helicopter empty legs. Book a trip and finish the transaction online. Allows booking of individual seats. Traction appears slow, there was only a single sold-out listing on the site when this author visited on 9 June 2017.

Super First Class (China based, China operations)

No website available from Google search. Empty legs booking app which only functions in Chinese. Allows users to not only book individual seats and finish payment online but also request customized charter services by submitting an online order. However, government payment limitations only allow clients to pay 20,000 RMB or less via UnionPay and 50,000 RMB or less via Alipay or WeChat (two popular e-payment platforms in China)⁴³.

⁴⁰ Load factor is a measure of how well an airline is utilizing its capacity and is used to assess how efficiently an airline operator is filling seats in return for fares.

⁴¹ CNBC: JetSmarter partners with XOJet to offer more flights, as the sector comes under pressure. (2016, September 20). Retrieved from <http://www.cnbc.com/2016/09/20/jetsmarter-partners-with-xojet-to-offer-more-flights-as-sector-comes-under-pressure.html>

⁴² JetSteals Website. (n.d.). Retrieved from <http://jetsetgo.in/jetsteals/list>

⁴³ Asian Sky Group: Asia-Pacific Business Jet Charter Report Summer 2016. (n.d.). Retrieved from <https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58be30b99de4bb249cb0d9a8/1488859357451/Charter+Report.pdf>

International apps

Victor (London-based, international operations)⁴⁴

On-demand private jet charter that allows you to compare, book, and manage jet charters. Unique selling point is that it discloses operator and aircraft details, which allows for transparency and complete financial protection. Nothing stops the user to bypass the app and go directly to the operator to ask for a competitive quote. From a consumer's standpoint, the app serves as a good directory to all available options. Could open regional HQ in Hong Kong.

JetSmarter (US based, routes mainly between US, London, Dubai, opening up routes this year to India, HK, China, Brazil, Mexico)⁴⁵

First started in 2012, JetSmarter is currently valued at US\$1.5 billion after closing its US\$105 million Series C round in December 2016⁴⁶. Investors include rapper Jay Z and the Saudi Royal family. Has four services, normal private charter, shared charter, JetDeals, which are spontaneous last-minute, one-way flights, and JetShuttle, which offers shared, scheduled flights between major cities. Currently charges members an annual fee of US\$11,500 plus a one-time initiation fee of US\$3,500⁴⁷.

However, there are some limitations to fully "uberizing" the private jet market. Real-time on-demand jet charter or sharing would be tough as the majority of so-called charter fleets in Asia-Pacific are owner aircraft. This means that charters would still be subject to "owner's approval", which could potentially cause the upset of deals at the very last minute. There is also a challenge to provide accurate real-time availability, quotes and confirmations without a seamless integration and agreement between all players in the market.

Jet sharing apps also currently do not provide the experience of knowing the strengths and weaknesses of each operator - something experienced brokers can provide.

⁴⁴ Victor Website. (n.d.). Retrieved from <https://www.flyvictor.com/en-gb/#/>

⁴⁵ JetSmarter Website. (n.d.). Retrieved from <https://jetsmarter.com/>

⁴⁶ Crunchbase, JetSmarter (n.d.). Retrieved from <https://www.crunchbase.com/organization/jetsmarter#/entity>

⁴⁷ South Florida Business Journal: Another South Florida startup is officially a 'unicorn', valued at \$1.5 billion. (n.d.). Retrieved from <http://www.bizjournals.com/southflorida/news/2016/12/13/another-south-florida-startup-is-officially-a.html>

Status and Operational Challenges of major SEA countries

Operational challenges and regulation restrictions affecting the jet-charter industry in selected ASEAN countries.

Indonesia

As of 2016, Indonesia has 53 business jets with 16 being chartered out commercially. The average lead time to receive landing and overflight permits is 3 days.

Infrastructure and Safety Issues

Airports have not kept up with the rise in passenger traffic - Soekarno-Hatta International Airport, designed for 22 million, is expected to receive 61 million by the end of 2017. While, this stress might be alleviated by the expected completion of a new terminal and third runway^{48,49}, other airports around the country are likely to remain operating way above designed capacity.

According to a 2015 PwC report⁵⁰, Indonesia's airport sector is expected to invest US\$1.9 billion in 2017, and US\$3 billion by 2025, growing at a rate of 5.8% per year. However, as the investment level required is beyond state-owned operators, Angkasa Pura I and II, government support for foreign or domestic private investors would have to be present to facilitate this growth. Provided investments continue pouring in, progress can be made for the expansion and redevelopment of airports in addition to refurbishment of air traffic control assets and ground handling⁵¹.

⁴⁸ Bloomberg Technology: Why Indonesia Remains One of the World's Worst Places to Fly (2015, December 7) Retrieved from <https://www.bloomberg.com/news/articles/2015-12-07/why-indonesia-remains-one-of-the-world-s-worst-places-to-fly>

⁴⁹ Indonesia Investments: Indonesia: Passenger Capacity Soekarno-Hatta Airport (n.d.). Retrieved from <https://www.indonesia-investments.com/news/todays-headlines/aviation-infrastructure-indonesia-passenger-capacity-soekarno-hatta-airport/item7158?>

⁵⁰ PwC Report: Indonesia's airports sector expects investments of up to US\$25bn in 10 years, double the present level due to 4.8% expected increased air traffic growth. (n.d.) Retrieved from <http://www.pwc.com/id/en/media-centre/press-release/2015/english/issues-challenges-for-airport-investment.html>

⁵¹ PwC Report: Connectivity and growth Issues and challenges for airport investment (n.d.). Retrieved from <http://www.pwc.com/gx/en/capital-projects-infrastructure/publications/assets/connectivity-growth-airport-investment.pdf>

Private jets operating between popular airports would hence have to contend with such congestion and unexpected delays.

Unfriendly regulations⁵²

The largest challenge remains the legal decree passed by the Indonesian Government in October 2015. Strict overfly cabotage rules prevent any private jet charter operator from conducting flights within Indonesia unless they are domestically registered⁵³. Consequently, there has been increased demand for local charter solutions at higher prices.

In 2007, audits conducted by the International Civil Aviation Organization (ICAO) detected 121 loopholes in the Indonesian air safety oversight system⁵⁴, leading the US and EU to ban all Indonesian aircraft entering their respective airspaces. The situation has since improved, with the EU lifting the ban for a handful of operators (Garuda, Mandala, PremiAir, Airfast, Air Asia, Citilink, Lion Air, Ekspres Transportasi Antarbenua, Batik Air⁵⁵), and the FAA lifted the ban for all Indonesian operators in 2016.

In general, government regulations, poor airport infrastructure and a bad reputation for safety hinders Indonesia from being a global player in every aspect of the private jet aviation industry.

⁵² Universal Weather & Aviation Inc: Indonesia Landing and Overflight Permit Requirements for General Aviation. (n.d.). Retrieved from <http://www.universalweather.com/blog/2016/01/indonesia-landing-and-overflight-permit-requirements-for-general-aviation/>

⁵³ Asian Sky Group: Luxury Chartering. (n.d.). Retrieved from <https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury+Charter+Launching+EN.pdf>

⁵⁴ Indonesia Investments: Ban on Indonesia's Airlines Entering US Airspace lifted (n.d.). Retrieved from <https://www.indonesia-investments.com/news/news-columns/ban-on-indonesia-s-airlines-entering-us-airspace-lifted/item7102?>

⁵⁵ European Commission: LIST OF AIR CARRIERS WHICH ARE BANNED FROM OPERATING WITHIN THE UNION, WITH EXCEPTIONS (n.d.). Retrieved from https://ec.europa.eu/transport/sites/transport/files/modes/air/safety/air-ban/doc/list_en.pdf

Malaysia

As of 2016, Malaysia has 49 business jets, with 8 used for business jet charters. The only Malaysian-registered jet run by Berjaya Air. The average lead time to receive a permit is 72 hours.

Grey market charters⁵⁶ are more prevalent and unofficially tolerated in Malaysia⁵⁷. The result is legitimate charter operators finding it tough to compete with the ad-hoc availability and friendlier prices from private jet owners, thereby depressing charter business opportunities.

Singapore

As of 2016, Singapore has 65 business jets, with 11 used for chartering. The mid-size, large, and long-range categories make up over 91% of this fleet, suggesting a need to fly mostly long distance. Average landing permit lead time is 7 working days while overflight permit lead time is 2 working days.

Generally charter friendly. All business jets based in Singapore are foreign registered, as the local aviation registry, the Civil Aviation Authority Singapore (CAAS), caters more to commercial aviation⁵⁸.

Philippines

As of 2016, the Philippines has only 4 jets available for commercial charter. The average permit lead time is 3-5 days.

Landing and overflight permits are mandatory for all charter operations in the Philippines.

The Philippines government has plans to ban general aviation (non-scheduled, non-airliner aircraft) from the Manila Airport. All landing permit requests must come with a local business contact, with applicants having to provide an abstract of charter agreement, purpose of operations, type of aircraft, relationship of passengers and more.

⁵⁶ The informal renting of jets which are usually unregulated and tend to compromise on safety and legality

⁵⁷ Air Charter Service: GREY MARKET CHARTERS, AND WHY YOU SHOULD AVOID THEM (n.d.). Retrieved from <http://www.aircharter.sg/about-us/news-features/blog/grey-market-charters-and-why-you-should-avoid-them>

⁵⁸ Asian Sky Group: Luxury Chartering Jan 2017. (2017, January 1) Retrieved from <https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury+Charter+Launching+EN.pdf>

Helicopter charter within Philippines' thousands of small islands are an increasingly viable market amidst tight regulations imposed on private jet charters⁵⁹.

In general, cumbersome administrative requirements and airport bans present friction for the private jet charter economy.

Thailand

As of 2016, Thailand has 37 business jets with 18 available for charter. Thailand had 727 UHNWIs and 24 billionaires in 2015. The average permit lead time is 3-5 days for landing permit and 2-3 days for an overfly permit.

"A 2015 International Civil Aviation Organization (ICAO) ruling putting the Thai registry under close scrutiny due to safety concerns has affected the local commercial charter operators. No new routes are being approved or aircraft are being allowed to fly to certain international destinations during this period, as local charter operators are put into the same category as low cost airline carriers."

Foreign registered aircraft being chartered into Thailand requires a long lead time as the Civil Aviation Authority of Thailand (CAAT) will not issue landing permits without arrival or departure slot approvals and parking approvals. Chiang Mai International Airport and Phuket International Airport will not allow overnight parking, although pick up and drop off is permitted, while Don Mueang International Airport has a maximum parking time of 48 hours.

In general, unfriendly rules, regulations, and long lead times for permits prevent smooth and flexible operations by private jet charter operators. Scarcity of experienced business jet pilots is also an issue.

⁵⁹ Asian Sky Group: Luxury Chartering Jan 2017 (2017, January 1) Retrieved from <https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58b3edd68419c27c67263eed/1488186944080/Luxury+Charter+Launching+EN.pdf>

Future Outlook

Although current challenges remain large, it has been said that Asia's large population and wealth is in a good position to tackle flexibility issues and empower efficient private travel⁶⁰. This author, however, takes a more skeptical position that unless political will aligns with consumer demand, not much would change.

While organizations including ASEAN and APEC working with the International Civil Aviation Organization (ICAO), the International Business Aviation Council (IBAC) and the Asian Business Aviation Association (AsBAA) continuously raise the importance of improving transportation regulations in an effort to implement efficient solutions, success so far has been largely muted.

In the words of Jeffrey C. Lowe, Managing Director of Asian Sky Group, "The charter market in the Asia-Pacific region has yet to reach the size and scope necessary to provide cross benefits and industry wide stimulus. Like the business aircraft market itself in the region, charter is in its infancy and has yet to mature. This is also the case in terms of the charter products available i.e. membership programs and charter tools such as mobile applications. For example, most apps in the region do not provide live fleet updates or have the ability to confirm the flight and pay online, but rather are reduced to a messaging service where the user must "request a call back".⁶¹

Before one attempts to jump in on the opportunity to provide better private charter services or introduce comprehensive jet-sharing solutions in Asia or SEA, one would have to seriously consider the challenging operational conditions that currently plague the region. Any player seeking to capture a slice of the SEA private aviation market would require deep knowledge and extensive networks to navigate and work with the multiple stakeholders involved. Having to contend and coordinate between multiple clients, private jet owners, airspace and safety regulators, governments, airport services, aircrew, competitors and even the weather itself exposes one to an incredibly huge amount of uncertainty and risk.

⁶⁰ Asian Sky Group: Asia-Pacific Business Jet Charter Report Summer 2016. (2016)
Retrieved from
<https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58be30b99de4bb249cb0d9a8/1488859357451/Charter+Report.pdf>

⁶¹ Asian Sky Group: Asia-Pacific Business Jet Charter Report Summer 2016. (2016)
Retrieved from
<https://static1.squarespace.com/static/583cff1a59cc68a8c3ce896f/t/58be30b99de4bb249cb0d9a8/1488859357451/Charter+Report.pdf>

A new era for the private aviation industry will likely arrive once ASEAN governments commit to liberalising their airspace and airports, building and upgrading airport facilities and having a regional agency coordinating air traffic and setting implementable safety standards.

Until such conditions present themselves, new entrants would have to work within the operational constraints which perpetuates inefficiency. They would also have to compete against experienced operators and brokers who have eased such inefficiencies by establishing strong working relationships with various stakeholders around the region.

Annex A

Light Jet

Typical Flight - 800 to 1,500 miles

These aircraft have interiors comparable in size, comfort, and luxury to those of stretch limousines. They are quite economical for regional and medium-length flights, typically having a range of around 1500 miles nonstop. Light jets may seat 6 passengers comfortably and 8 or 9 at maximum capacity. External baggage space may be small, making it difficult to bring skis or large golf bags. However, you will certainly enjoy the flight as light jets are typically outfitted with excellent in-flight entertainment centers, a mini-galley, and luxurious leather and hardwood interiors.

Mid-Size Jet

Typical Flight - 1,500 to 3,000 statute miles:

The term refers both to the jet's cabin and its exterior and engines. With a larger cabin comes grander, roomier seating and more space to move around. Interior features are similar to light jets, but have more layout options, such as spacious divans, and provide stand-up space. At least 8 passengers can be seated on midsize jets, and some can even accommodate 12 or 14. Most all come with a private lavatory behind a solid door. Midsize jets also offer greater capabilities, including a wider range - on average 2100 miles or about 4 to 5 hours. Some even offer nonstop coast-to-coast flight possibilities.

Super Mid-Size Jet

Typical Flight - 1,500 to 3,700 statute miles:

These aircraft provide features on a level between standard midsize and larger jets. Seating capacity is on the high end of typical midsize jets (10 to 18), but with even roomier stand-up cabins, many luxury amenities seen in heavy jets, and often a full galley. Some luxury options include a private lavatory with dressing area, spacious internal/external luggage compartments, and advanced entertainment and information centers. Super-midsize jets operate with the efficiency of midsize aircraft and the greater range and speed of heavy jets, making them suitable for coast-to-coast or international flights with a small to moderate size party.

Large Cabin Heavy Jet

Typical Flight - 2,000 to 5,000 statute miles:

Known as the kings of private jet aircraft, heavy jets have got it all - the biggest interiors, most luxurious amenities, and longest nonstop range. They can carry anywhere from 8 to 20 passengers and as much luggage as you could possibly need. Interiors can be arranged to accommodate practically any configuration, from full galleys to private offices and bedrooms - not to mention plenty of regular seating in spacious comfort. Full-size lavatories with dressing rooms are standard, and service is best-managed by the inclusion of a flight attendant in the regular crew. These aircraft can be employed for coast-to-coast or intercontinental flights ranging from 6 to 12 hours nonstop.

Source: <https://www.marmaladeskies.com/jets/classifications#>