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Wan Liza Md Amin, Nor Katrina Anis Ahmad Ghani

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## Delivering Competitive Aviation Industry in Malaysia

Wan Liza Md Amin<sup>1</sup>, Nor Katrina Anis Ahmad Ghani<sup>2</sup>

<sup>1</sup>Faculty of Law, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, MALAYSIA,

<sup>2</sup>Postgraduate Faculty of law, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, MALAYSIA, UiTM Competition Law and Policy Research Interest Group

Coessponding Author's Email: wanliza@uitm.edu.my

### Abstract

While the aviation industry has often been a target of government policies, the COVID-19 crisis has precipitated a new suite of loans, loan guarantees, wage subsidies and equity injections, raising concerns about competition and the efficient use of public resources (OECD, 2020). The oligopolistic nature of the airline industry makes it tougher for new players to enter the market as the oligopolistic sets high barrier to entry. The objective of this paper is to deliver a competitive aviation industry framework to foster economic efficiency in the form of allocative, productive and dynamic efficiencies. The paper examines the market structure in respect of each segment of the aviation industry together with their level of barriers of entry. This paper employed thematic analysis, focusing on analysis of articles on air transportation, Malaysian Aviation Commission Act 2015, Competition Act 2010, air transportation journals, and other legal sources. Thematic analysis is a type of qualitative research in which precedent is analysed utilising documents as source material. The data are used to evaluate the relationship between the market players in Malaysian aviation industry, endogenous and exogenous factors, and competition policy in Malaysia. The result of the discussion suggests that deregulation / restructuring of the aviation industry is needed to foster competitive aviation market structure. The paper aims to provide a efficient framework for air transport operators, mutual benefits for stakeholders and the relevant authorities such as MAVCOM, Ministry of Transport and other air transport operators to ease the barriers of entry in aviation market in Malaysia.

**Keywords:** Malaysia, Aviation, Transportation Sector, Barriers of Entry, Aviation Market Structure, Competition Policy

### Introduction

Aviation derives its name from the Latin 'avis', which translates as "bird". The word 'aviation' relates to matters involving air travel, notably flying. It is one of the industries in which tourism sector is most dependent on. Aviation is at the heart of travel and tourism, the world's largest sector, which accounts for employment of one in nine workers (Chan, 2000). Air travel promotes tourism, which boosts the economy and reduces poverty (Gittens et al., 2019). It is also mentioned in the article by Gittens that Aviation

industry connects people, crosses oceans and countries, and generates enormous economic advantages. Indirectly, aviation industry, especially airline segment helps in improving quality of life by widening people's leisure and cultural experiences as it is regarded as an economical way to visit distant friends and relatives. The availability of low-cost and frequent air travel has expanded the number of viable vacation places. Air travel is now a crucial part of both leisure and business travel as it connects human and global economic integration Wittmer et al (2011) by supporting and driving economic development, primarily by encouraging inbound tourists and investment (ICAO, 2005).

In Malaysia, consumers have limited choices of air carrier either full-service carrier i.e Malaysia Airlines Berhad (MAB) and low-cost carriers i.e AirAsia, Batik Air (Abdullahi, 2021). This scenario also applies to other countries. The limited number of air carriers and its economies of scale creates an oligopolistic market structure in one segment of the Malaysia aviation industry, which is airline industry. An oligopolistic nature of the market can induce complications for consumers as smaller number of firms can raise prices easier without the threat of losing large numbers of customers. Although new entrants have greater potential gains from entering a less-competitive market, it can be difficult to enter oligopolistic industry because of high barriers to entry. For the airline industry, barriers to entry include high startup costs, competition for airport gates and large economies of scale. Firms sometimes collude to maintain high prices (Wolla & Backus, 2018). In July 2011, Malaysian Airline System Berhad (MAS) has paid USD3.35 million to a number of freight forwarders in the US by an out-of court settlement for claims alleging that MAS was involved in price fixing of airfreight shipping services and related surcharges (Edge Editor, 2011).

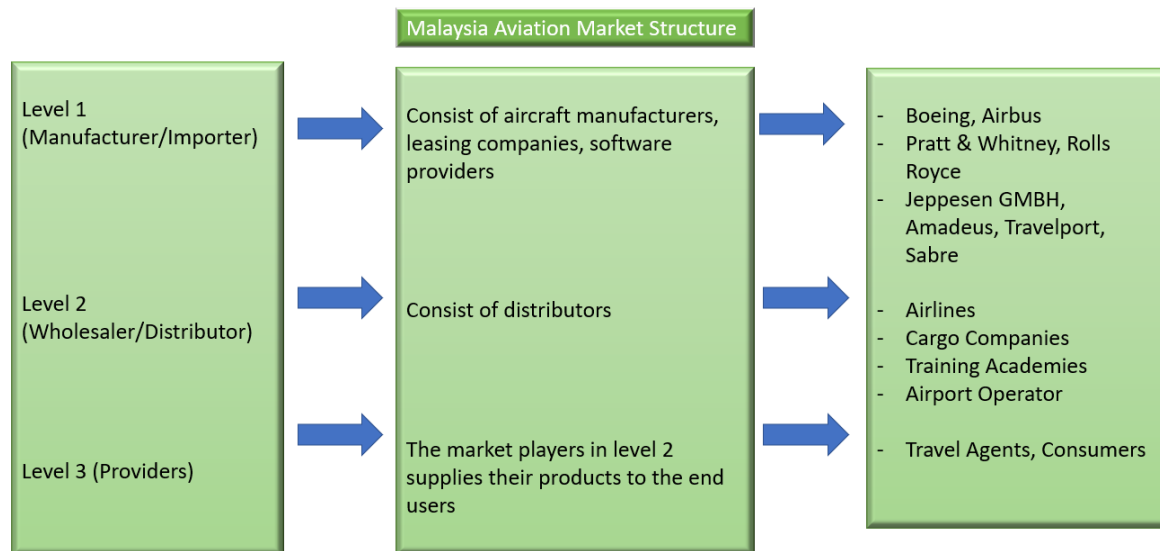
Hence, the paper aims to examine the market structure in respect of each segment of the aviation industry in order to identify the barriers of entry. The paper will then discuss on the possibility of lessening the barriers of entry in order to encourage competitive aviation market structure. The paper aims to provide a efficient framework for air transport operators, relevant stakeholders and the relevant authorities such as MAVCOM, Ministry of Transport and other air transport operators to ease the barriers of entry in aviation market in Malaysia.

## **Literature Review**

### **Market Structure of Aviation Industry in Malaysia**

The global aviation industry had a total economic impact of USD 2.7 trillion in 2016, or about 3.6% of the world's gross domestic product (GDP), according to recent figures by the cross-sector Air Transport Action Group (ATAG). This impact included direct, indirect, induced, and tourism-related effects (Gittens et al., 2019). Currently, 1.4 billion tourists traverse international borders annually, with more than half of them flying to get there. Nearly 37 million jobs in the tourism sector were supported by aviation in 2016, which added about USD 897 billion annually to the global GDP (ATAG, 2018).

Malaysian aviation industry is an industry that encompasses market players like aircraft manufacturers, engine service providers, leasing companies, air carriers, cargo companies, training academies, travel agents and end consumers. The products being sold under this aviation industry are, inter alia, air tickets, cargo, and highly skilled human resources. The market structure can be summarised in below diagram.



This paper focuses on the Tier 2 of the market structure, which are the air carriers, cargo companies, training academies, ground handling companies and airport provider.

### 1. Airport

In Malaysia, Malaysia Airports Berhad was granted the sole authority to manage and operate Malaysia's commercial airports. About 20 airports across the nation that are operating at a loss have been retained under the company's management, cross-subsidizing Malaysia's airport network. From its prior position as a state-run airport operator, it has been corporatized as Malaysia Airports Berhad. Malaysia Airports Holdings Berhad (MAHB) was the sixth airport operator in the world and the first in Asia to go public when it was established as a public limited company and listed on the Malaysian Stock Exchange (Bursa Malaysia) in 1999. Now, there are two Malaysian airports that are not managed by Malaysia Airports Berhad, and one of them is Senai International Airport. This airport is managed by Senai Airport Terminal Services Sdn Bhd (SATS). In 2003, SATS took over the airport's operations from MAHB. Kerteh Airport in Terengganu is another airport that is not owned by MAHB. This airport is owned and operated by Petronas, a wholly government-owned oil and gas company, and was originally built to transport employees from oil and gas companies' various oil platforms in the South China Sea. Domestic scheduled traffic is also handled at the airport.

### 2. Air Carriers

Airline industry is one of the segments of aviation industry which highly contributes to the aviation industry and tourism sector. According to Malaysian Aviation Industry Outlook : July 2022<sup>1</sup>, passenger traffic in Malaysia will increase by a CAGR of 4.1% between 2019 and 2030, from 104.9 million to 165.0 million (MAVCOM, 2022). MAVCOM recorded total passenger traffic of 8.7 million in the first quarter of 2022, the highest since the epidemic began. Passenger traffic increased 415.6% year on year due to the low base impact. This represents a 33.0% improvement over the same period in 2019. Domestic passenger traffic contributes for 88.8% of overall traffic in 1Q22, maintaining the upward trend that began with the resumption of interstate travel in 4Q21. Pricing in the aviation industry, especially between

<sup>1</sup> MAVCOM, M. A. C. (2022). Malaysian Aviation Industry Outlook: July 2022. In *Suruhanjaya Penerbangan Malaysia* (Issue July 2022).

air carriers, is notoriously complex, resulting in significant and well-documented price disparities (Mutalib et al., 2020). Low Cost Carriers were originally introduced in Southeast Asia by AirAsia, the first LCC from Malaysia, in 2001 (Srisook, 2017).<sup>2</sup> In Malaysia, according to MAVCOM's provisional and unrestricted predictions, passenger traffic in Malaysia will increase by a CAGR of 4.1% between 2019 and 2030, from 104.9 million to 165.0 million. MAVCOM recorded total passenger traffic of 8.7 million in the first quarter of 2022, the highest since the epidemic began. Passenger traffic increased 415.6% year on year due to the low base impact (1Q21: -91.2% YoY). This represents a 33.0% improvement over the same period in 2019. Domestic passenger traffic contributes for 88.8% of overall traffic in 1Q22, maintaining the upward trend that began with the resumption of interstate travel in 4Q21(MAVCOM, 2022).

The airline industry is characterized by an oligopoly market structure, a form of imperfect competition in which a limited number of firms dominate the industry. Oligopoly firms have market power in setting or altering prices for their products by establishing various output levels. Since oligopoly firms produce similar outputs and compete with their industry rivals, any action an oligopoly firm takes is noticed by its competitors. Consequently, rivals may react with price-cutting or other attempts to enhance market share. Hence, the firms in an oligopoly market are interdependent, and each recognizes that its market power is vulnerable to erosion by competitors or new market entrants (Rubin & Joy, 2005). The Malaysian airline industry is in an oligopoly market structure, where the consumers mainly subscribed to one full service carrier (FSC) Malaysia Airlines Berhad (MAB) and two nofrills carriers, namely Air Asia and Firefly. The Malaysian airline industry is tightly regulated by the government and was dominated by the state-controlled Malaysian Airline System Berhad (MAS) before the government's domestic liberalization exercise opened up the market to allow Air Asia to join the industry (Amiruddin, 2013).

The product type, cost structure, and market entry requirements are the airline industry's key distinguishing factors. Airlines' underdifferentiated or homogenous product results in fierce competition in markets with little restrictions and barriers to trade. Another crucial aspect of the airline industry is its high capital and operating costs. The largest capital expense for air carriers is the cost of acquisition and its major capital expenditure. Aviation fuel and labour make up the majority of the industry's operational expenses. The criteria of market entry, which vary between domestic and international markets, is another significant aspect of the sector. Entry into the global market is highly challenging since international flights and routes are the outcome of discussions between governments on a bilateral basis. On the other hand, admittance into the domestic and regional markets is based on how much regulation has been liberalised. But more and more nations are allowing more competition into their domestic markets. Additionally, the government is crucial in regulating the markets, and established businesses may exert a large amount of influence over new competitors. High entry hurdles, moderate competition, and little threat from substitute goods, suppliers, and customers characterise Malaysia's airline industry (Man & Justine, 2011).

The upstream industries that support the airline industry include those that operate airports, manufacture aircraft, provide rental and leasing services, and produce refined petroleum (including the blending of biofuels). Airports and the air transportation business in particular

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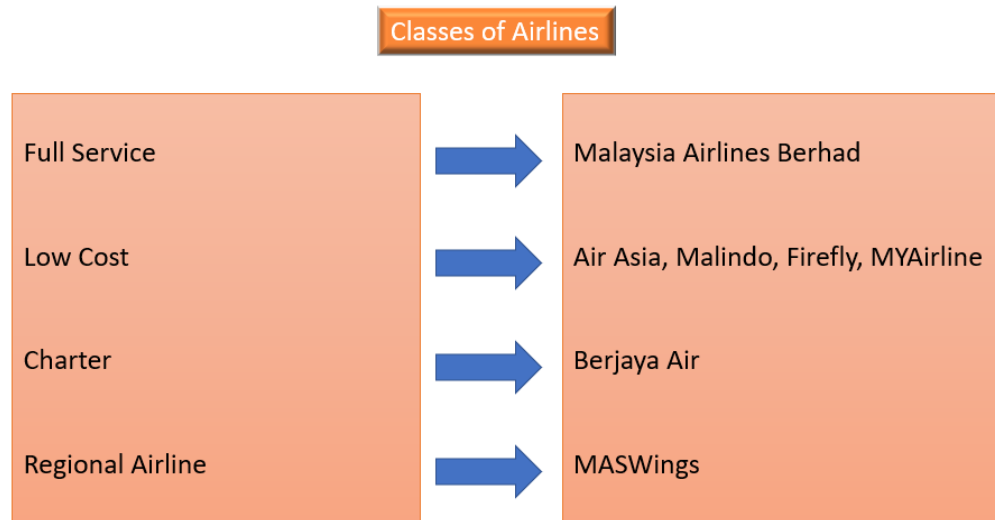
<sup>2</sup> Srisook, P., & Panjakajornsak, V. (2017). Southeast Asian low-cost carrier airline competitiveness: A solution for economic growth. *Business and Economic Horizons*, 13(4), 536–555. <https://doi.org/10.15208/beh.2017.37>

are inextricably linked. Some airports are very reliant on one or a small number of businesses that use them as a hub. Shared ownership is typical, whether it comes from the public or private sector (Lufthansa, for instance, owns a small portion of Frankfurt Airport). According to the OECD Indicators on Product Market Regulation, in 2018 three out of every four OECD nations had the largest domestic airport, and one out of every three had the biggest airline. Additionally, whether directly or via leasing businesses, the demand from the aviation industry is an important factor for aircraft producers. This statement refers to the activity levels and strategic choices related to air travel, airports, and aircraft manufacture holistically as the aviation industry (OECD, 2020).

Global alliances, tariff coordination, code-sharing, price fixing, application of airport capacity and slots, predatory pricing, frequent flyer programmes, corporate discount programmes, and travel agent commissions are some of the competition issues in the airline industry. These competition-related issues come up frequently in interactions with rivals, joint venture partners, and suppliers and are likely to be investigated by the competition authority. The details of the agreement, the potential impact on the relevant market, and whether the alliance would result in undue market dominance will all be taken into consideration by the competition authorities (Lee, 2018). Access to airport slots (structural barriers), pricing and loyalty policies of air carriers are two examples of the many sorts of barriers that might limit competition among air carriers (strategic barriers). These barriers to entry often raises issues at the nexus of competition, consumer protection, and transportation regulations (Hovenkamp et al., 2019). Hence, the government needs to play an active role to carefully analyse the arrangements between the stakeholders in the Malaysian aviation industry to ensure that not only spirit of competition is fostered taking into consideration the need for the market players to be assisted to ensure that they are able to sustain in this heavily regulated industry.

In Malaysia, there has been a debate recently on the decision made by MAVCOM to allow two new air carrier to operate in Malaysia (Azman, 2022) among which the issue of overcapacity has been raised. Due to the small number of air carrier groups in the country, any merger could result in a significant lessening of competition. Restricting the number of carriers in a market to reduce the likelihood of overcapacity would similarly be inadvisable as such a step would result in consumers enjoying lesser choice. Therefore, where no evidence of anti-competitive behaviour is found, letting market forces run their course is the best course of action for the government in the long run. Markets should be allowed to decide what the "proper" water level is, especially given that consumer travel habits are likely to be unpredictable for the foreseeable future. (Zain & Radhi, 2021)

There are several classes of air carrier which can be found in Malaysia, and those can be summarized in the diagram below.



### 3. Cargo companies

The freight industry accounted for 18 of the 21 ATR applications, indicating sustained solid expansion in the industry. The Commission earlier stated that Malaysia's aviation cargo traffic is predicted to grow by 26.5 percent year on year (YoY) to 28.2 percent YoY in 2021 (Malaysian Aviation Commission, 2021). Prior to this, the former LCCT facility has been given to Raya Airways Sdn Bhd ("Raya") and DRB-HICOM for their cargo handling activities through their fully owned subsidiary, KL Airport Services ("KLAS"). This is regarded as one of the initial catalyst initiatives to boost cargo and logistics services and provide high-value services for unique and time-sensitive commodities and products at KLIA (Hussein, 2016). An Air Service Licence (ASL) is a necessary requirement under Malaysian Aviation Commission Act

2015 to transport passengers, mail, or freight by air for hire or reward between two (2) or more locations, one (1) of which is within Malaysia's borders. This does not apply to anyone who is authorised to operate a scheduled voyage to or from Malaysia under the terms of any agreement or arrangement made by the Malaysian Government, such as international air carriers approved to fly to Malaysia under Air Service Agreements (Malaysian Aviation Commission, 2016).

Freight and mail are two common types of air cargo transported through road feeder services, passenger aeroplanes (belly cargo), and full-freight aircraft. ICAO has included cargo as part of the definition of commercial air transport operations (ICAO, 2009). Air transport service is defined as a commercial air service that is provided for the purpose of moving individuals, personal effects, baggage, products, or cargo in an aircraft between two sites. Based on the list of ASL holder as at July 2022 (MAVCOM, 2022), below is the diagram of licensed cargo companies authorised by MAVCOM to provide cargo related services.



#### 4. Ground Handling Companies

Ground handling companies are the companies which provide ground services to the air service providers in Malaysia. The services include ground administration and supervision, passenger handling, freight and mail handling, aircraft services, aircraft maintenance, flight operations and crew administration, surface transport, in-flight catering services, baggage handling, freight and mail handling, ramp handling, fuel and oil handling (CAAM, 2021). Some of the examples of licensed Ground Handling companies are Aerodarat Services Sdn Bhd, Mas Awana Services Sdn. Bhd., and Ground Team Red (MAVCOM, 2016).

According to Malaysian Aviation Industry Outlook : July 2022 (MAVCOM, 2022), the report mentioned that ground handling operations are the least concentrated segment with Catering having 3 license holders, general ground handling of 17 license holders and refuelling of 3 license holders. When compared to the scheduled passenger services, non-scheduled services, and aerodrome operation segments, ground handling is the least concentrated. However, the ground handling segment's various sub-segments may have varying degrees of market concentration. General ground handling, for example, is the most concentrated sub-segment, with an HHI of 0.7763 in 2021.

As described by Fahriza et.al (2021) in the article entitled Issues and Challenges of Aviation Maintenance Repair and Overhaul in Southeast Asia, Southeast Asia has the potential to be the best hub for Aviation Maintenance, Repair and Overhaul (MRO). However, there are a few barriers that are mentioned in the article that need to be addressed by the relevant stakeholders to ensure that more market players are willing to penetrate Malaysia aviation industry. It is mentioned in the article that Malaysia moving towards setting up an aviation hub in Subang Skypark and a few more solutions to decrease the barrier of entry. However, this article only concentrates on a particular segment of aviation, that is MRO. Hence, there is a need to discuss on the possible liberation of aviation industry and its effect to each of the stakeholders including airports, airlines and cargo companies.

#### 5. Training Centres

According to Southeast Asia's Emerging Aerospace Sector, 32,000 high-skilled jobs in the aviation sector are expected to be created in Malaysia (Wisconsin Economic Development Corporation, 2017). Hence, there has been an effort of establishing new academic institutions and aerospace curricula in recent years. The example of academic institution is the Advanced Composite Training Center and the Advanced Aeronautics Technology Center at the Kuala



Lumpur University Institute of Aviation Technology (ASEAN, 2017). In addition to the training centres mentioned, Malaysia Aviation Group also provides a training centre via its subsidiary MAB Academy. MAB Academy tailors world-class programs to support businesses in achieving excellence in the fields of hospitality, customer service, and professional development, in addition to programs to train and develop Malaysia Airlines' own employees and aviation professionals .

### **Competition Law and Policy**

In Malaysia, From 1 March 2016 onwards, aviation services in Malaysia are governed by competition law as provided for in the Malaysian Aviation Commission Act 2015, particularly Part VII (Competition) of the Act. Correspondingly, the Malaysian Aviation Commission Act 2015 has been excluded from the application of the Competition Act 2010 through its insertion into Schedule 1 of the Competition Act 2010, effective from 1 March 2016. MAVCOM has issued and published seven guidelines regarding competition. These guidelines serve to supplement Part VII (Competition) of the Malaysian Aviation Commission Act 2015. These guidelines do not provide any financial penalty for any non-compliance of the guidelines. However, failure to comply with these guidelines may affect the outcome of an enterprise's application to MAVCOM relating to an individual exemption a block exemption, a merger, an anticipated merger, or leniency (MAVCOM, n.d.). In accordance with section 54 of the MAVCOM Act, mergers are not permitted if they significantly reduce competition in any market for aviation services. According to the Procedural Merger Guidelines, parties to a merger should conduct a self-evaluation and should notify MAVCOM if the merger or possible merger may significantly lessen competition in any market for aviation services. Due to the voluntary nature of the notification regime, mergers are permitted without the need for MAVCOM's application or approval. MAVCOM, however, has the authority to launch an inquiry into the merger transaction and may order, among other things, that the merger be dissolved or changed if it is discovered to be in violation of the section 54 ban if a merger party fails to provide any notification (Raj & Gomez, 2021)

In order to implement the restrictions in the Competition Act that relate to the provision of airport operation services and air traffic services, the Civil Aviation Authority (CAA) in the United Kingdom has concurrent authority with the Competition and Markets Authority (CMA). Additionally, CAA participates in the UK Competition Network (UKCN). In order to promote and facilitate competition, the UKCN aims to ensure that competition legislation is applied consistently in the regulated industries. The CAA and the CMA also have a Memorandum of Understanding that outlines how they will collaborate within the parameters of competition law (Civil Aviation Authority, 2023).

### **Method**

#### **Qualitative Method**

This paper is adopting thematic method focusing on analysing articles, statutes, journals, and other legal sources. This approach concerns analysis of legal doctrine and how it evolves and applied within the scope of studies (McConville & Chui, 2017). It is a type of qualitative research in which precedent is analysed utilising documents as source material in order to determine the law (Webley, 2010). Studies conducted using this methodology is often to resolve the ongoing daily issues as it focuses more on established and reliable sources (Singhal

& Malik, 2012). Since the paper concentrates on Malaysian perspective, a reference to MAVCOM Act 2016 will be the primary source of legislation.

## **Results and Discussion**

### **Constraints in the Aviation Industry – Barriers to Entry**

#### **1. Cost – Capital, Labour, Technology, and Sunk costs**

The primary source of revenue for airlines, as one of the segment in the aviation industry, is the operation of planes, and they are carefully tuned for efficient operations (Sun et al., 2022). Hence, in order for an aviation firm to compete with the rest of its market player, the operations of the fleet must be at its optimum state. With that being said, in order for new players to penetrate the market, there are significant costs to be incurred in the beginning as well as to sustain the business. Many of costs incurred by the new entrants to penetrate the aviation industry are sunk costs that cannot be recovered when they leave such market. Some costs include advertising and marketing costs, startup capital, labour costs, technology costs and sunk costs. The significant financial strain on airlines makes it necessary to re-evaluate business strategies in the long run (Kim & Sohn, 2022). The potential entrants are inclined to struggle in finding perfect pricing because they cannot leverage from previous experience or economies of scale. As a result, the enterprises find themselves in a less competitive position. When firms spend huge amounts on research and development, it is often a signal to the new entrants that they have large financial reserves. In order to compete, new entrants would also have to match or exceed this level of spending. This nature of the market creates structural barriers to entry in Malaysian aviation industry. Malaysia is privileged to be one of the countries where the labour cost for the highly skilled workers is significantly lower compared to other countries. By highlighting their advantages of having low labour costs, Malaysia is one of the countries that is actively courting international investment (The Jakarta Post, 2019).

#### **2. Regulations**

Aviation industry is a heavily regulated industry and a heavily regulated industry indicates that regulation might contribute to a structural barrier. Licensing policies can also take various forms in order to stifle market competition. The government may restrict the percentage of ownership, which usually disadvantages new players because they have no control over the company. For instance, aviation industry is subject to government restrictions on foreign ownership percentages. The establishment of airlines are subject to ownership requirement (ICAO, 2019). Licensing for ground handling services under aviation industry is also regulated to the extent that one of the requirements that will be assessed by MAVCOM is that the ownership provision requires that a Ground Handling Licensee (GHL) to be always under the control of a Malaysian person/corporation. A person/corporation shall be deemed to have control over the GHL if such person/corporation has an interest of more than fifty percent (50%) of the shares in the GHL. This will restrict joint venture of foreign companies with the local companies and indirectly will pose a regulatory barrier for new entrants. In the case of a technical handling, there are also requirements that need to be adhered to. In accordance with annexure 6, which the International Civil Aviation Organization (ICAO) has established as a set of aviation standards for aircraft maintenance, all members of the United Nations are required to adopt the mutual acceptance standards for aviation goods and services. Many nations have adopted the Federal Aviation Administration's (FAA) and European Aviation Safety Agency's (EASA) model requirements, and their certification has

grown to be the most respected (Shanmugam & Robert, 2015). A significant barrier to entry into the market for aviation maintenance, repair and operations (MRO) is the requirement to gain internationally recognised certification. For instance, Boeing being an Original Equipment Manufacturer (OEM), needs third-party aviation MROs to obtain certification from both Boeing and civil aviation authorities (Çizmeci, 2005).

### 3. Network Effect

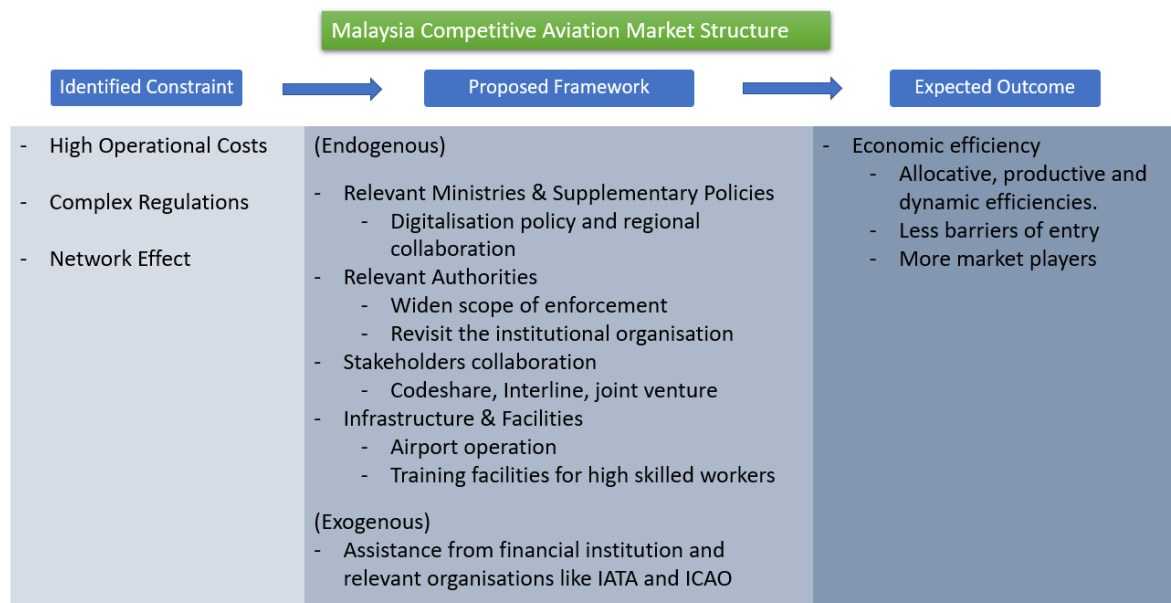
Network Effect is another barrier to consider. The more individuals who use a product, the more of a "network effect" it has. A product's value rises in direct proportion to the number of individuals who utilise it. Customers will be more ready to recommend it, which will lead to increased demand. As a result, the incumbent would gain an initial foothold on the market. If a market has significant economies of scale that have already been exploited by the existing firms to a large extent, new entrants are deterred. In addition to that, a strong brand value creates loyalty of customers and, hence, discourages new firms. A product's value rises in direct proportion to the number of individuals who utilise it. Customers will be more ready to recommend it, which will lead to increased demand. As a result, the incumbent would gain an initial foothold on the market.

For instance, Air Asia has been known as the first low-cost carrier in the South-east Asia Ahmad & Neal (2006) this branding has been with the air carrier ever since. Malaysia Airline with their tagline of "Malaysian Hospitality" has been an established tagline in Malaysia. Malaysia is also synonymous with Malaysia Airlines as a full service carrier. Brands are increasingly viewed as valuable assets that play an important role in marketing strategy. Brand marketers must connect with customers by creating immersive brand experiences (Sahin et al., 2011). The brand is suggested to be the provider of economic and symbolic benefits to the consumer. The more individuals who use a product, the more of a "network effect" it has.

### **Malaysia Competitive Aviation Market Structure**

In the United States, it was suggested that the way to restructure oligopolistic structure is to open the U.S domestic aviation market to foreign air carriers. The resulting increase in competition will force prices down and give firms incentive to start competing on customer service and experience (Prijs, 2017).

If legal considerations take precedence over economic reason, there is a significant risk that the aviation system won't be able to sustain itself and that market inefficiencies will stifle competition and effective managerial leadership. Understanding the markets, lowering entrance and exit barriers, and fostering competition on all aviation sector rungs promote innovation and internalisation of the inherent dangers of erratic demand, economic cycles, and climate change. Such a policy's foundations of free entry and departure eliminate market distortions and inefficiencies (Adler & Gellman, 2012). Hence, this paper is discussing on options and alternatives in deregulation of the aviation market to deliver competitive Malaysian aviation industry.



### 1. Relevant Ministries and Supplementary Policies - Digitalisation policy and regional collaboration (ASEAN)

To assist the digitization of the global air cargo supply chain, the International Air Transport Association (IATA) announced the launch of the IATA Enhanced Partner Identification and Connectivity (EPIC) platform in 2021, for instance. Through the rapid sharing of vital data like messaging capabilities and identities, EPIC streamlines the difficult process of creating digital links across the whole air cargo value chain. provides easy access to the data required to conduct business throughout a digital air cargo supply chain. And by doing so, it will expedite improvements in aviation cargo efficiency (International Air Transport Association, 2021)

The importance of aviation industry is also being recognised by the Asian countries. ASEAN member states have made significant strides in establishing a regional open skies agreement. Through the execution of the ASEAN, ASEAN Member States have been aggressively pursuing the expansion of air connectivity through a single aviation market. This aviation market incorporates the ASEAN open skies accords and negotiates air services with ASEAN dialogue partners like China, the European Union, India, Japan, and the Republic of Korea. This effort is in line with ASEAN's vision which is "Towards Greater Connectivity, Efficiency, Integration, Safety and Sustainability of ASEAN's Competitiveness and Foster Regional Inclusive Growth and Development (ASEAN Secretariat, 2015).

The government must make a number of further decisions before Malaysia's aviation industry can be prepared for the post-pandemic era. Reopening international borders, restoring CAAM's regulatory function, and long-term governance and finance of Malaysia's air traffic control are a few of these. Other issues include supporting Malaysia's air freight sector within the framework of a larger logistics industry, the growth of a bustling hub for business jets, and Malaysia's environmental commitments to the Paris Agreement (Zain & Radhi, 2021). Government agencies can also assist to formulate few incentives for new market players. In order to attract more players participate in Malaysian aviation market, the government may offer tax exemption or less bureaucracy to penetrate the market.

On top of giving monetary incentive, the government agencies can also control pricing

from the start. By regulating the price, there will be no issue of market players fixing prices that are exorbitantly low that it will kill potential new entrants. The point of price controls is to help curb inflation and to create balance in the market by eliminating monopolies and opening up the market to more competition. This is an important step for the country to embrace so that firms can compete in a more natural and healthy competition. Once the market structure is healthy, government may choose to lift the price control and let the market dictates it. For a start, airport tax can be reduced or regulated for new market players to penetrate the market.

Given the fact that the market players in each segment of the market structure have been established in Malaysia for a significant amount of time, the incumbents are very experienced and have wide of range of data to be used to analyse consumers' behaviours. These opportunities bring them one step ahead in terms of technology and network connectivity to cater to consumers' needs. In order to compete, other new entrants are expected to have technology standards which are at par, or even better than the incumbents'. These technologies definitely come at a price. In order to ensure that technologies are not becoming a barrier to entry, the government may, through various channels and bodies, offer grants and financial assistance for new entries to penetrate the market and take part in balancing the market power. As the system and technology comes from other countries, government can also assist in the technology transfer by having a set of guidelines, policies, and procedures to facilitate these transfers.

## 2. Authorities

Relevant authorities can also play role in loosening the barriers of entry. In Malaysia, MAVCOM, CAAM and MyCC are directly and indirectly linked to foster the competitiveness and foster the growth of Malaysian aviation industry. Malaysian Aviation Commission (MAVCOM) can be tasked to widen the scope of enforcement and loosen the regulatory barrier. Malaysia is in a way unique as there are three major relevant authorities that govern competition issues in Malaysia. Hence, if the structure is to be maintained, it is important for the stakeholders to understand each scope of enforcement to ensure that there will be no overlapping of jurisdiction or enforcement issues.

Another organisation that can contribute to the competitive aviation industry is Association of Southeast Asian Nations (ASEAN). The European Union and ASEAN have signed a comprehensive air transport agreement on 17th October 2022 with the aim to expand air transport opportunities and improve direct connectivity between the two regions, as well as upgrade rules and standards for affected flights. It is the latest example of a new generation of international air transport agreements, setting global benchmarks that commit all 37 countries in the two regions to fair competition and improving social and environmental conditions. The agreement opens up new opportunities for consumers, airlines, and airports in both Europe and ASEAN countries.

## 3. Assistance from Financial Institution and Relevant Organisation

In order for the aviation industry to thrive and produce more opportunities for new entrants, banks and financial institutions needs to encourage the use of diverse funding and finance sources. This effort must be supported by collaboration with the stakeholders within Malaysia, international and regional organizations, industry, multilateral development banks, and other financial institutions (Gittens et al., 2019).

The International Air Transport Association (IATA) is the world's airline trade association, representing most airlines in the world. The member airlines account to 83% of total air traffic. IATA promotes aviation by setting global standards for airline safety, security, efficiency, and long-term viability. IATA is committed to ensuring that all airlines, regardless of location, are subject to fair and efficient taxation measures. IATA collaborates with the aviation industry to ensure that government authorities around the world honor and adhere to International Civil Aviation Organization (ICAO), Organization for Economic Cooperation and Development (OECD), and United Nations taxation principles. With this, IATA is striving to ensure that new and existing taxation measures are applied fairly and that the economic and social implications are adequately considered. IATA also aims to advocate against taxation measures that unfairly target the industry and do not reinvest the resulting tax revenues in air transportation-related services and infrastructure.

International Civil Aviation Organization (ICAO) is an organization aiming to assist air transport diplomacy and cooperation. Its primary duties include overseeing the ICAO Secretariat, an administrative and technical bureaucracy that supports these diplomatic exchanges, and conducting research on new innovations in air transport policy and standardization. These duties are instructed and approved by governments through the ICAO Assembly or the ICAO Council that the assembly elects.

ICAO is moving towards a more holistic policy approach with a particular focus on end users. Connectivity brings tangible value to the aviation industry. Therefore, once connectivities are established and made easy, there will be better end-user experience, more travel, more economic development, and eventually it will create more traffic growth. Hence, a strong supporting structure is required to maximize connectivity. This structure covers, among other things, market access (such as liberalization), the best possible utilization of aircraft, airport systems, air navigation services (including ASBUs), and airline operations. By supporting numerous projects within that framework, ICAO has helped to improve connectivity in various sectors (such as market access, consumer protection, etc.). For instance, this involves using policy and advisory materials to facilitate international treaties that will loosen the present constraints.

For instance, the Ministerial Roundtable at the Fifth ICAO World Aviation Forum (IWAF/5) in Montréal, Canada on 23 September 2019 has further acknowledged and discussed the need to respond to the challenges and opportunities arising from innovation and cutting-edge technology in the aviation industry.

#### 4. Stakeholders Collaboration

Stakeholders Collaboration should also be part of the agenda for competitive aviation industry in Malaysia. Codeshare arrangements, interline agreement and joint venture collaborations are some of the key initiatives that can be taken into consideration to lessen the barriers of entry. Initiatives done by Malaysia Airlines on the joint business with Japan Airlines on the year 2020 is aimed to improve convenience between Japan and Malaysia and provide customers with more flight options. Another initiative by Malaysia Airlines is a proposed metal neutral joint business partnership with Cathay Pacific Airways Limited. These are the examples of initiatives that contribute to more harmonious Malaysia aviation industry. Having said that, the regulators also need to play an active role in ensuring that these arrangements are scrutinised and approved to ensure that it does not contravene or undermine the competition regulation in Malaysia.

In July 2022, KL International Airport (KLIA) will be implementing Airport Collaborative Decision-Making (A-CDM) integrated system to increase operational efficiency its KLIA ecosystem. The new initiative will see a collaboration between seven stakeholders at the airport including Civil Authority of Malaysia (CAAM), Malaysia Airlines (MH), AirAsia (AK), Batik Air (ID), Aerodarat, Pos Aviation and Ground Team Red (GTR). The airport operator together with the government agency, air carriers and ground handling companies signed a Memorandum of Understanding (MoU) witnessed by the Secretary General of Ministry of Transport Malaysia, Datuk Isham Ishak earlier today to commemorate the collaboration. A-CDM system will be able to enhance the air carriers' On Time Performance (OTP) and help all parties to strategically use resources and manage flight operations more effectively (MAHB, 2022a).

#### 5. Infrastructure and Facilities

Unlike the airlines industry, there is a greater need for active government policymaking in airports. The country will benefit from the implementation of an integrated airports industry development model designed at the national level that addresses these policy issues, coupled with transparent frameworks that facilitate airport funding, service quality, charges and fees. The Ministry of Transport had in 2020 indicated the development of a National Airports Strategic Plan (NASP), while Mavcom, prior to the government's decision in December 2019 to close it, had developed those supporting regulatory frameworks (Zain & Radhi, 2021) In order to improve the operating capabilities of its airports, Malaysia Airports and Universiti Teknologi Malaysia (UTM) have signed a memorandum of collaboration (MoC). The MoC will cover 15 issues, including, among others, engineering and technology and airport operations (MAHB, 2022b). Further to this, the Federal Aviation Authority (FAA) of the United States of America (USA) has restored Malaysia's International Aviation Safety Assessment (IASA) rating to Category 1 (Cat1), which would boost Malaysia's status as an aviation hub and improve its network connections (MAHB, 2022c).

Aside to the involvement of airport operators, there is a need to also acknowledge the importance of enhancing facilities for the training of high-skilled workers. It is estimated that in order to attract more new players, effective regulatory monitoring is necessary as well as the recruitment and training of skilled labor. According to the most likely scenario, Asian and Pacific airlines will need to train an average of 12,249 new pilots, 2,537 new air traffic controllers, 14,779 new maintenance technicians, and 20,142 new cabin staff per year until 2037 (Gittens et al., 2019). Hence, various assistance, financial and non-financial, from agencies such as MRANTI (Formerly known as MaGIC) to provide facilities and infrastructure, deploying interventions and programmes are essential to minimise the technology barrier for new entries to participate in the market. Collaborations can also be made with local aviation training institute to provide assistance or subsidy for the cadetts and high skilled workers to undergo certain trainings. For instance, the effort of partnership made between Yayasan Peneraju and Airasia Academy to nurture tech talents from stigmatised minorities. This effort helps in giving exposure on the technology needed in aviation industry, more that the nowadays digitalisation is the way to move forward.

#### Conclusions

In conclusion, findings in this study indicate that there are certain degrees of barriers of entry that are found in the Malaysian Aviation Industry. The most glaring barrier is the cost. In order for a new market player to enter, there are significant costs that need to be absorbed by the firm in order to ensure sustainability of the business. The need to have a highly skilled worker

is also one of the barriers to entry as the cost to train the workers are on the high scale. However Malaysia is privileged to have a relatively low labour cost compared to other countries hence it is important for the stakeholders to lobby for more international investments.

Aside to the cost, regulations are also one of the barriers to entry as aviation is a heavily regulated industry. The percentage of ownership will usually hamper the interest of potential investors as they have little to no control over the company. Lastly, the issue of network effect and branding. In the issue of branding, the new market players will not find it difficult to penetrate the market, but rather difficult to sustain the business as they are competing with the incumbent market players which have been in the industry since day one.

Analysing these barriers in the Malaysia Aviation Industry, the paper suggests that there is a need for a deregulation of the aviation industry to foster endogenous and exogenous competitive aviation market structure. Relevant ministries and supplementary policies need to be developed more to cater to the dynamics of Malaysian Aviation Market. Stakeholders collaboration is also important to ensure that more market players are able to penetrate the market. Lastly, infrastructure and facilities need to be upgraded in the form of airport operation as well as the training facilities for high skilled workers.

Competitive aviation industry framework should foster the resilience and sustainability of the aviation industry. In achieving this objective, government have to strike the balance between to provide support to the aviation industry and also the need to preserve competition. In ensuring that competition is not being compromised, measures to foster competition should focus in lowering the costs of entry.

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