

**THE ASSESSMENT OF AB COMPANY- COMMERCIAL  
AVIATION: CHINESE MARKET ANALYSIS**



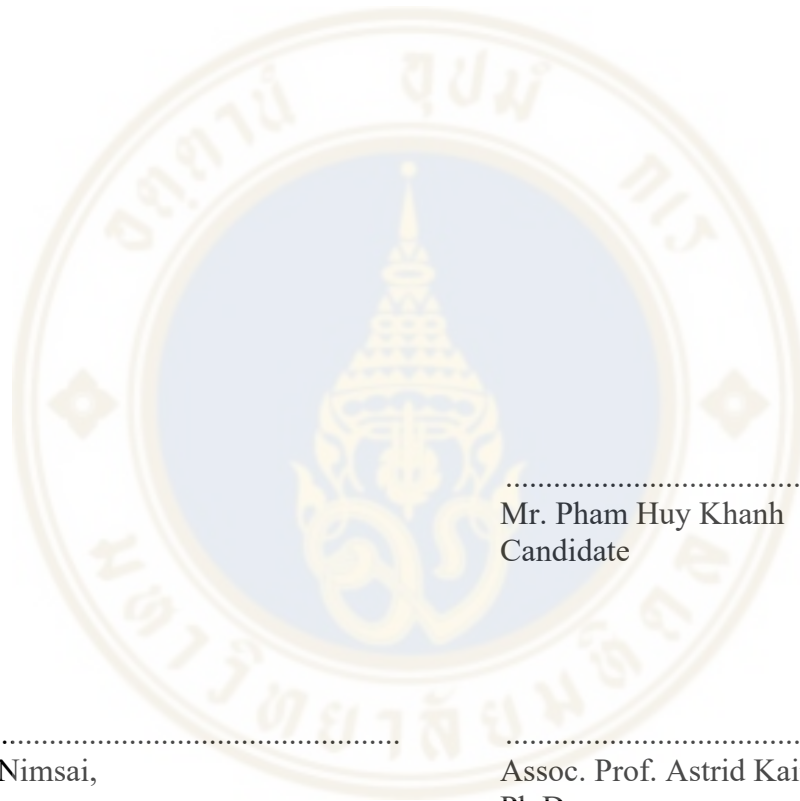
**A THEMATIC PAPER SUBMITTED IN PARTIAL  
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Thematic paper  
entitled  
**THE ASSESSMENT OF AB COMPANY- COMMERCIAL  
AVIATION: CHINESE MARKET ANALYSIS**

was submitted to the College of Management, Mahidol University  
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Pham Huy Khanh

**THE ASSESSMENT OF AB COMPANY- COMMERCIAL AVIATION:  
CHINESE MARKET ANALYSIS**

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**ABSTRACT**

AB has faced a lot of challenges since grounding its commercial planes due to coronavirus restrictions. Generally, business activities in the aerospace industry have reduced by 40%, mostly in the commercial sector. In the China Aviation industry, AB has been the leader producing some of the bestselling commercial airplanes surpassing its closest rival Boeing. However, the shrinking market implies that the company has to reevaluate its operations and reduce most of its activities to cut the cost. Therefore, AB has involved numerous events, such as reducing the number of employees and closing some of its factories. Despite such drops, AB remains a global leader due to its strength in numerous aspects such as finance and market diversity. The article presents the PESTLE, 5 Forces, SWOT, Grand Strategy Matrix and VRIO of AB in the China Commercial market. The aim is to understand the position of the company, its readiness to resume operations and suitable strategies for AB after the Covid-19.

**KEY WORDS:** commercial Aviation industry/ Chinese market analysis/ Strategy  
design/ Aviation market/ Resource values

82 pages

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# CHAPTER I

## INTRODUCTION

### 1.1 Background

The demand of aircraft manufacturing is followed by the demand of air traveling around the world, according to the International Air Transport Association (IATA) the number of people using air transportation would reach 8.2 billion in 2038. By 2038, the aviation' center will continue shifting toward the east side of the world which means the Asia Pacific will have the biggest growth in the aviation industry; the growth is contributed by the combination of steady growth in the economy, household incomes, population and changing of customer demographics of Asia Pacific countries (IATA,2019). The Asian Pacific region has high potential for companies across our globe. It has seen with the rise of China's tremendous economic growth. While this is slowing down a little, it is still among the highest in the world. Currently, it contains both the 2nd (China) and 3th (Japan) biggest world economies. This is further complemented by India (5th), South Korea (12th), Australia (14th), Indonesia (16th) and many smaller economies outside of the top 20. This makes Pacific Asia the world region with the highest GDP. Since there are many emerging economies in the region the growth will not considerably slowdown in the coming future.

In 2018, China was perceived as the world's second-largest civil aviation market, the civil aviation industry handled 610 million passenger air traffic representing an 11.4 percent CAGR (CAAC, 2019). China will become the world's largest civil aviation market by 2024-2025, and air passenger volume in the Chinese market is expected to reach 1.6 billion by 2038 (IATA,2019). According to AB, Chinese domestic air traffic has shown a solid growth over 20 years from 1998 to 2018 at 12.4% annual growth rate comparing to the average global level at 5.5%. AB also forecasted that domestic air transportation demand of China would continue to grow dramatically till 2038 and surpass the domestic demand of the U.S. The huge fundamental growth is coming from three factors urbanization, accumulation of wealth and liberalization in the

world in general and particular in China. Urbanization of population growth, people live in cities that increase transportation demand for economic and travel purposes. Accumulation of wealth, increasing of purchasing power raise the propensity of travel. Liberalization, or global deregulation, unleashed the entrepreneurship creating Airlines, new routes and low-cost carriers ("2019-2038 GMF- Airbus Commercial Aircraft," 2019).

AB has faced a lot of challenges since grounding its planes due to coronavirus restrictions. Generally, the aerospace industry's business activities have reduced by 40%, mostly in the commercial sector. In this industry, AB has been the leader producing some of the bestselling commercial airplanes surpassing its closest rival Boeing. However, the shrinking market means that the company has had to relook at its operations and reduce most of its activities as a way to cut the cost (Drop, 2020). Therefore, AB has involved numerous events, such as reducing the number of employees and closing some of its factories. Despite such drops, AB remains to be the leader due to its strength in numerous aspects of the market, such as its finance and market diversity.

## **1.2 Problem Statement**

The pandemic is temporary, soon the global economy will be recovered. Chinese aviation market will continue to be the leader in term of air travel demand due to the fast urbanization, the increasing of middle-class income travel demand and liberalization factor. It is predicted that the number of air travel will recover back to pre-pandemic travel demand level in 2024, the recovery of short haul especially form domestic travel will take place first, following is international long haul (IATA, 2020). There are indications that China' air transportation is rebounded back from the epidemic, comparing to pre Covid-19, 45% of air travel demand in China is stated which is evidence of the potential of a strong recover from China (Jasper, 2020).

For AB, the year 2020 has been tough economically and operationally. The company has faced a lot of struggle to stay afloat and remain competitive due to different restrictions that have forced the company to withdraw its commercial airplane and close most of its operations centers. Furthermore, the company's operations have significantly

reduced due to government laws and restrictions to reduce the spread of the Covid-19. In an attempt to adhere to the health and political environment, the company urged its employees to use extra safety equipment while at work. It has also introduced a short shift, which increases costs. As a response, the company has launched numerous shifts to reduce the number of workers at a specific workstation, a move that has come with increased cost. Though the company announced that it was already resuming and indeed had opened some of its stations, the production has been low, and this has led to a massive loss to the company.

Therefore, to be prepared for the rebound of the aircraft demand worldwide especially in China market while experiencing financially distressed. It requires AB taking a closer look on potential opportunities from the market, and carefully re-evaluate its resources to be more sensitive and proactive for upcoming decision making, especially when the nature of planes making requiring years of manufacturing and assembling from the date signing contract to delivery.

### **1.3 Research Objectives**

In this study, the aim is to understand the position of the company and its readiness in China market after the Covid-19. The objectives were followed:

1. Analyze the External Factors Influencing AB
2. To assess the readiness of AB
3. To provide recommendations to AB in China market

### **1.4 Research Scope**

This consulting internship project is a project of Toulouse School of Management cooperating with AB as a part of Master of International Management. The study took place in Toulouse, France which is the location of AB SAS Blagnac Headquarter.

## **CHAPTER II**

### **LITERATURE REVIEW**

There are 2 sections in this chapter. The first section is about the related theories that will be used for analysis. The second section is the theme park industry analysis. The topics are categorized as follow in order to help the analysis of the market easier.

#### 1. Industrial Analysis

- Global Commercial Aviation Industry
- Chinese Commercial Aviation Industry
- AB Commercial Market and Trends

#### 2. Related Theories

- Porter's Five Forces
- PESTLE Framework
- SWOT - IFE Matrix
- VRIO framework
- TOWS Matrix
- Grand Strategy Matrix

### **2.1 Industrial Analysis**

#### **2.1.1 Global Aviation Industry:**

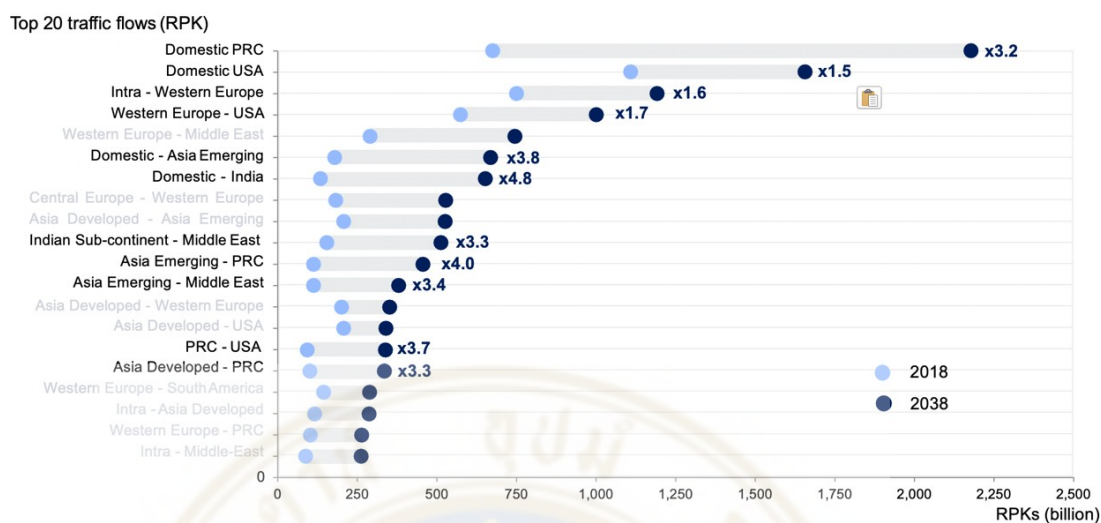
Historically, the aerospace and defense industry has always been subject to significant growth due to technological advancement. In 2017, the industry's overall growth rate raised up from 2.4% in 2016 to 3.1% in 2017, principally due to commercial aerospace growth of approximately 1.2%. However, it was reduced compared to 2016 at 2.7%; this decline is mainly due to slow growth rates in the United States as a result

of poor aircraft demands. However, across the pond in Europe, the industry has been experiencing strong growth, up to 1.3% in 2017.

This slowdown can also be explained by the stabilization and growth of the global gross domestic product (GDP). The growth in global GDP is accompanied by lower commodity prices, specifically in crude oil and a strong passenger travel demand, which has resulted in these effects. The results of this are especially noticeable in the Middle East and Asia Pacific region. Noticeably, a global increase in traffic and profits (lower fuel costs) for airlines has led to an increase in aircrafts demands in recent years. The demand for aircraft manufacturing is followed by the demand for air traveling around the world; according to the International Air Transport Association (IATA) the number of people using air transportation would reach 8.2 billion in 2038. By 2038, aviation' center will continue shifting toward the east side of the world which means the Asia Pacific will have the biggest growth in the aviation industry; the growth is contributed by the combination of steady growth in the economy, household incomes, population and changing of customer demographics of Asia Pacific countries (IATA,2019).

Furthermore, it is predicted that in 2038, approximately 40.000 new aircraft is demanded in the market which 42% of the demand is from the Asia Pacific. In 40.000 aircraft, 76% demand for small aircraft which is the A320 family and A220 family ("2019-2038 GMF- Airbus Commercial Aircraft," 2019). Furthermore, China's population will keep rising sharply, parallely with the growth of middle-class income, and the speed of urbanization rate, which leads to the demand for traffic in 2038 will be 3.2 times compared to 2018. Overall, it makes the Chinese market become of the potential market that every aircraft manufacturer wants to dominate.

## Traffic is forecast to grow at 4.3% p.a.



**Figure 2.1 Forecasted Traffic in 2038**

Source: ("2019-2038 GMF- Airbus Commercial Aircraft," 2019)

### 2.1.2 Chinese Aviation Industry:

AECC CAE (AECC COMMERCIAL AIRCRAFT ENGINE CO., LTD) pointed out that the Chinese air transport industry would continue to grow at a rapid rate from the current development trend in the next 15 years since 2015. From 2015 to 2030, the average annual growth rate of passenger turnover (RPK) of the air transport industry in China was predicted to be 8% (CAAC, 2019). By 2020, Chinese PRK will exceed 1 trillion person-km, and 2025, reaching 1.4 trillion person-km, which will reach 1.9 trillion person-km by 2030. In 2018, the total number of routes in China had reached 4,206, of which 3,420 are domestic routes and 786 are international routes. At the end of 2018, the number of AB civilian aircraft in service in China has exceeded 1,700. At present, Chinese air passenger demand is at a rapid growth stage. According to the data of 2018, Chinese passenger transport volume was 610 million, an increase of 10.9% compared to 2017. In the future, with the increase in demand for tourism, family visits, and study abroad, and the impact of demographic dividends, the Chinese air passenger demand market still has a lot of space for development (IATA's annual review, 2019).

As the Chinese civil aviation market continues to grow, competition within the industry will intensify, which will prompt Chinese civil airlines to strive to improve the quality of their services in order to capture the market share and launch affordable

fare travel for consumers. In the future, the Chinese airspace management environment will gradually be liberalized ("Overview of Regulatory and Industry Developments in International Air Transport," 2016). More low-cost carriers will enter the market. Lower fares mean lower travel costs. At the same time, investment in the infrastructure of civil aviation airports has further expanded, and the support capability has been further improved, which will drive more consumer demand for the civil aviation market (Chinese Economy, 2020).

Short- and medium-haul routes dominate Chinese current aircraft route network, and the layout is reasonable, but most routes still have capacity to increase flights to meet greater demand in the future market. Chinese domestic passengers are currently mainly concentrated on short and medium-haul routes below 2400 kilometers, accounting for 95% of the total passenger flow. It can be said that short-to-medium-range voyages in the civil aviation market are a market that AB should attach great importance to in the future. In this category of the market, AB has models such as A320 and A330 to meet the Chinese market's needs. Short- and medium-haul models are still the key to AB' success in China in the future (Airbus in China, 2020).

In general, with the maturity of the development of Chinese aviation network and the continuous increase in market demand, the service of dual-aisle large-scale mainline aircraft capable of transporting more passengers is needed (Casanova et al., 2017), which is good news for AB, because AB Two-channel large passenger aircraft such as A350 were produced many years ago. By 2030, China will provide huge market demand for the entire civil aviation industry's development to meet the air transport needs (Bluetech Clean Air Alliance, 2018).

Since AB is specialized in small aircraft which it is not its competitors' advantage. Boeing focuses aircraft segmentation is large aircraft such as 747, also, the closest aircraft segmentation is 737 facing a lot of scandals of crashing recent years; Chinese state-owned manufacturer like COMAC is not ready for the competition, as the technology on commercial aircraft relying on giants manufacturers and far still behind them . As a result, new trends of global demand and the Chinese market particularly and the significant growing demands of small aircraft, AB is having a huge advantage.

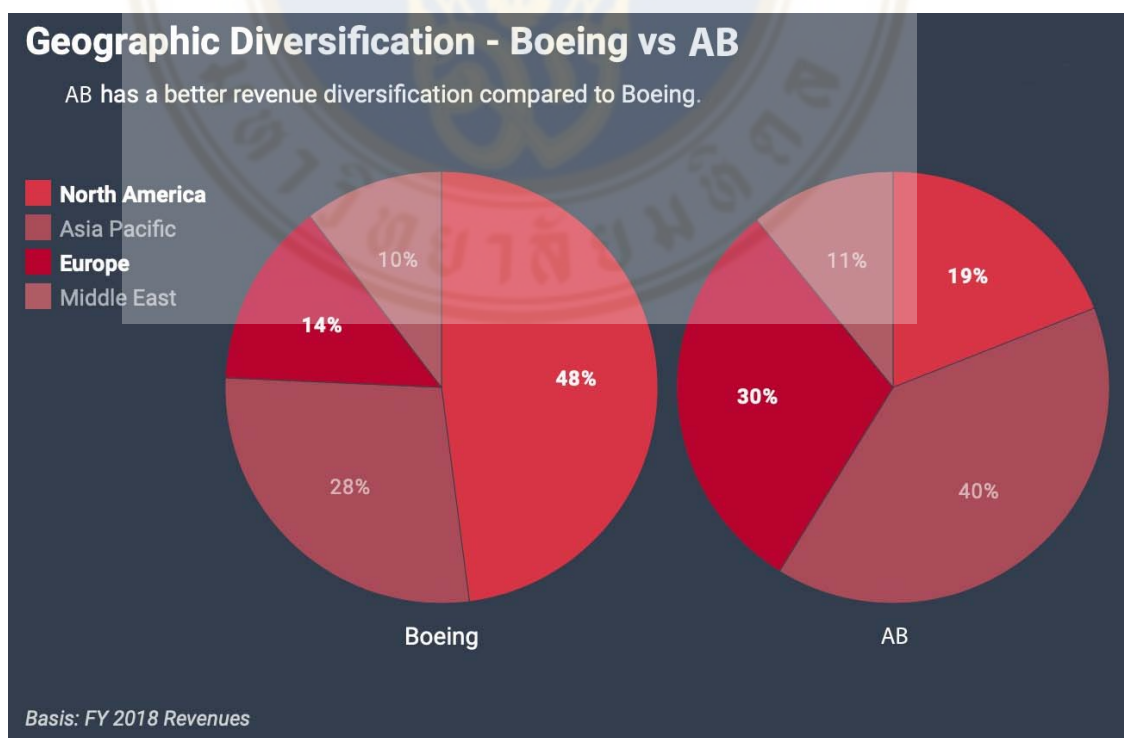


### 2.1.3 AB Commercial Aviation Market Shares and Trends

It is predicted that by 2038 the demand of commercial fleet in service would expect to be 47,680 airplanes in which 8,470 remained aircraft, 14,210 replacement and 25,000 new demand. The market of 39,210 new deliveries will be worth approximately \$5 trillion where 42% from Asia- Pacific, 36% from North America and Europe and the rest of the world will account for 22% ("2019-2038 GMF- Airbus Commercial Aircraft," 2019).

AB and Boeing take account for 91% of combined global market share, however, in Asia Pacific AB is dominated Boeing as having 40% of revenues from Asia Pacific compared to 28% from its rival (Duddu, 2020).

AB accounts for the majority of its market share in Asia Pacific, because of its design is suitable with the growth on demand of low-cost carriers. With a single aisle design in the middle (single aisle) and a capacity of 180-220 seats, the A320 series is capable of filling higher seats than other large aircraft, introduced perfectly for short domestic or international flights. More importantly, this aircraft line saves up to 16% of fuel compared to old generation aircraft (Graver & Rutherford, 2018).



**Figure 2.2 Revenues Based on Geographic**

Source: (Aerospace-technology, 2020)

In Chinese market, by 2016, Chinese airlines have 1254 AB aircraft, 1288 Boeing's and 162 aircraft from other manufacturers which means AB and Boeing market share accounts for 46% and 48% respectively (Confero,2016). In early of 2020, AB commercial aircraft has 1869, Boeing's has 1907 in China market, which accounts for 47% and 48% of the market share respectively (Planespotter, 2020). It reflects the strong position of AB and Boeing in Chinese market through period of time.

From 2014- 2021 period, AB has a steady growth on the sales of three main aircraft families A320, A350 and A330 in Chinese market, expect 2020 because of the Covid-19 pandemic situation.

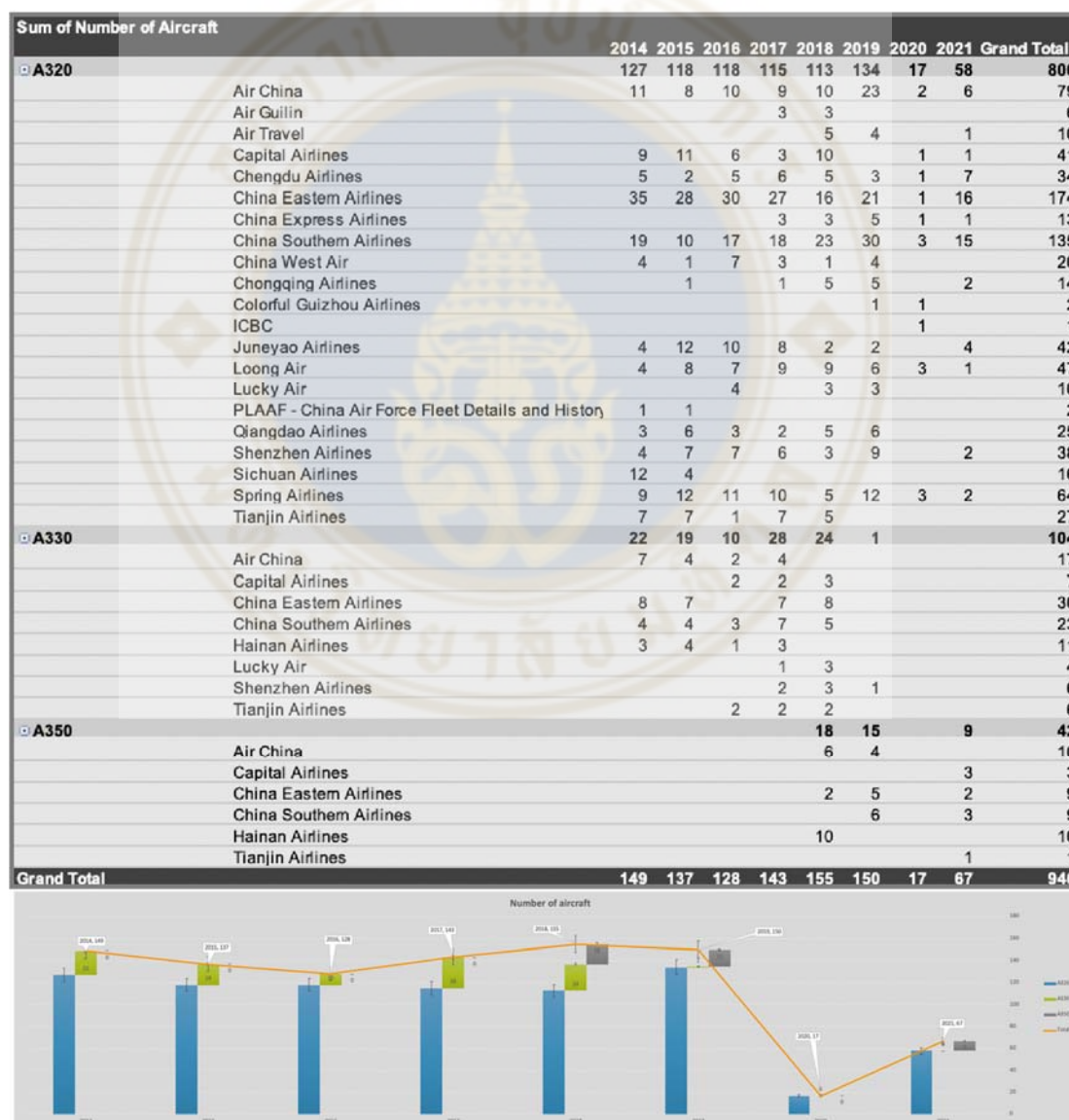


Figure 2.3 Number of Aircraft 2014-2020

Source: (AB, 2020)

## 2.2 Related Theories

### 2.2.1 Porter's Five Forces

How to compete in the industry does not focus on only the competitors. Competition for profits goes beyond industry rivals that include 4 more elements namely; customers, suppliers, potential entrants, and substitute products. If the forces are very intense, most company will not gain high return on investment. Understanding the competitive forces can explain where the profit will be generated.

**Threats of entry:** The new entrant in the industry will bring the change in the market share structure. A desire to gain market share will pressure on costs, prices, and investment. When the threat is high, the existing players will hold down their prices or make more investment to compete with newcomers.

**The power of supplier:** The powerful suppliers will have power over buyers in terms of prices, service, and cost. They will have ability to charge higher price on the products or limit the quality of the products and services they sell. The suppliers are more powerful if the industry is monopoly, suppliers depends on various industries whose revenue is not dependent on only one industry, or suppliers can offer products that are very unique and difficult to find a substitution.

**The power of buyers:** The powerful buyers can play a significant role in term of forcing down the price and demanding higher quality of service and product. The buyers are very powerful if they have power in negotiation, there are very few buyers in the industry, and they have low switching cost.

**The threat of substitutes:** A substitute has similar functions to industry's products. It may be direct or indirect forms. For example, software that is sold to travel agent can be replaced by airline and travel website. The threat of substitute is high if the substitute can perform more attractive performance and offer cheaper price. Moreover, the threat can be high if the switching cost of buyer is low. The higher the threat of substitute, the lower the profit in the industry.

**Rivalry among existing competitor:** High rivalry in the industry will limit the profitability. The intensity of the rivalry is high if the size and power of competitor are larger or roughly equal, slow growth rate in the industry that makes the companies

fight for higher market share, and high exit barrier that makes it difficult for the companies to leave the market (Porter, 1979).

The information in this section allows the team to understand more about competitive environment. Porter's five forces model analysis describes which area has higher threat which can be used later in this research suggestion.



**Figure 2.4 Porter's Five Forces Model**

Source: (Porter, M.E 2008)

### 2.2.2 PESTLE Framework

PEST Framework is firstly introduced by Harvard professor Francis Aguilar (Scanning the business environment, 1967) to understand how external factors influences the business through four components: Political, Economic, Social and Technological factors (HO, 2014). Thereafter, PEST was modified as PESTLE analysis to analyze the general external environment of a firm. PESTLE consists of PEST analysis with two Legal and Environment factors to evaluate the macro environment affecting the business especially in international market (Professional Academy, 2018) (Oxford College., 2016).

**Political Factors:** To assess the extent that country political situation affecting the firm or the industry. This criterion includes all political decisions, country policies and regulations as well as laws and tariffs that affects the firms where it operates.

**Economic Factors:** To evaluate the effect of country economy on the company or industry impacting its profitability and operation.

**Social Factors:** To understand the needs and wants of customers and evaluate the change of customer reference that affect the business.

**Technological Factors:** To evaluate the changes in technology, innovation and research and development in which that affect business operation.

**Environmental Factors:** To reflect the impact of environmental factors on the business activities. With the rise of concern on environmentally friendly operation, this factor becomes more focused by the business to achieve strategic move but align well with environment.

**Legal Factors:** To understand what is legal and allowed for a firm to operate at. Legislation changes gives a firm awareness of the impact might affect business operation.

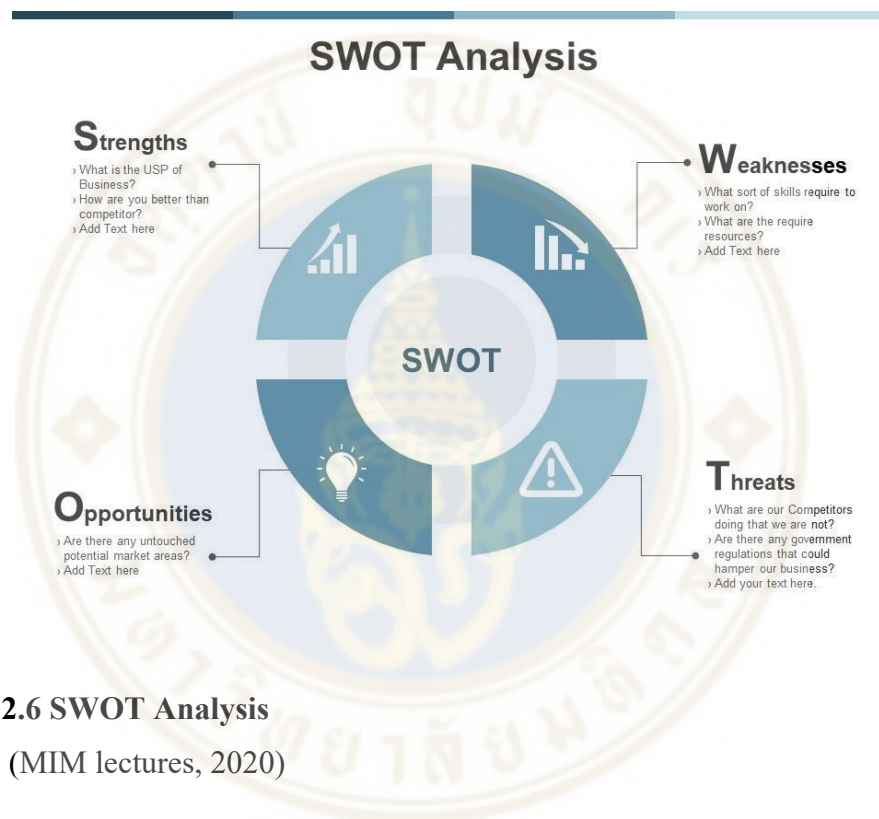


**Figure 2.5 PESTLE Analysis**

Source: (MIM Lectures, 2020)

### 2.2.3 SWOT Matrix

SWOT is the analytical tools to assess systematically internal and external factors through four aspects of the business to evaluate competitive advantages of company. Strengths and weaknesses are known as the internal factors which reflects to the current situation of the company, while external factors are formed by opportunities and threats which indicates outside conditions, independent factors that affect operation of business (Dyson, 2004).



**Figure 2.6 SWOT Analysis**

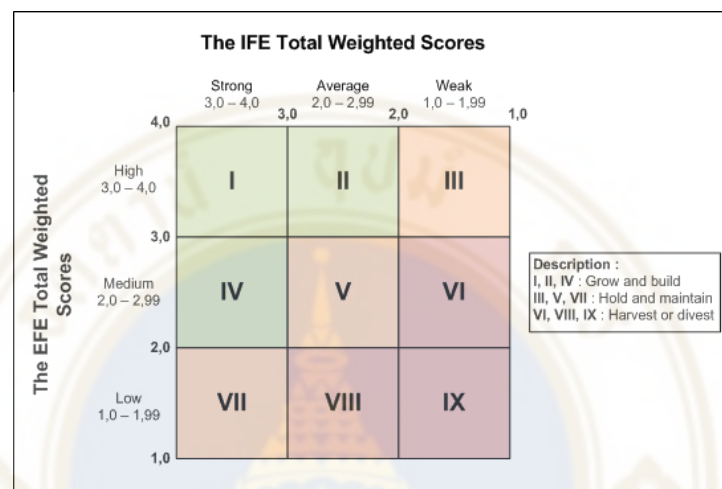
Source: (MIM lectures, 2020)

IFE Matrix uses Strengths and Weaknesses as the key internal factors in the company evaluation. Assessment of the strengths and weaknesses are done by giving of relative rating point and weight for each factor. The result of weighted score from ratings and weights, gives conclusion on what the company do better than competitors and also which areas of the company that could be improved to compete better with competitors (Zhikanga, 2017).

EFE Matrix identifies the key external opportunities and threats which the company is facing and might be affected. Each factor would be rated and weighted based on the significance and importance at which these factors from. Assessment will give

the company a boarder view of the external opportunities and threats affecting directly and indirectly to the company (Lupu et al., 2016).

IE Matrix is based on weighted scores of EFE Matrix and IFE Matrix gives an objective view about the readiness of the company and suggestions whether the company is ready for global market or need to improve their internal process first. (Cassidy,et.al., 2013)



**Figure 2.7 IE matrix map**

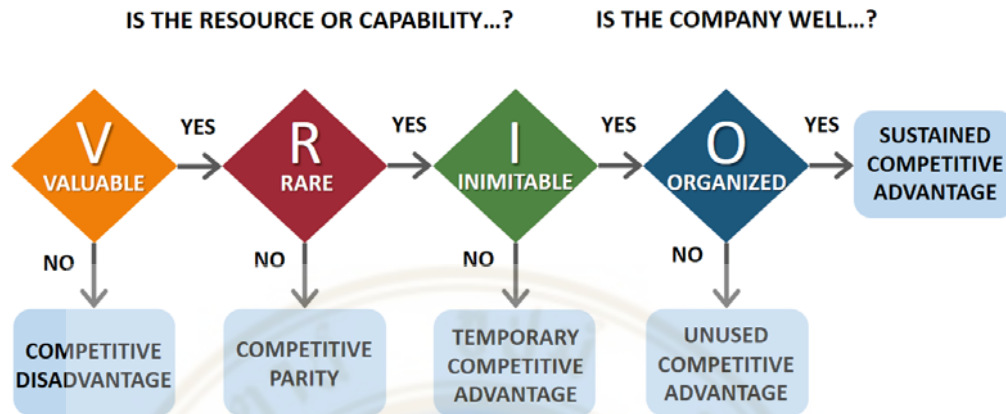
Source: (Linda, Candra, 2014)

#### 2.2.4 VRIO Framework:

VRIO framework is a tool helping the firm uncover the resources and capabilities in order to recognize which has the sustainable competitive advantages to design accordingly strategies to maximize the benefit. Based on four stages of

- Value: Assess the value of the resources and capabilities of company which brings competitive advantage.
- Rarity: Detect whether the resources are rare or not, so that owning them will bring company advantages.
- Imitability: Understand that the resources or capabilities are expensive to mimic or not, since an ease on duplication will make the resources less competitive for company.

- Organization: Assess that the firm organizes to capitalize on resources and capabilities or not based on structures, culture or management.



**Figure 2.8 VRIO Framework**

Source: (Strategic Management, 2018)

### 2.2.5 TWOS Matrix:

TOWS is derived from SWOT analysis, it is used to develop strategies due to the internal and external factors of the organization, examining they in which extend they will link, influence and affect others.

- Strengths- Opportunities Strategy: How firm utilizes both strengths and opportunities to reply to the potential market.
- Strengths- Threats Strategy: Strategies exploit the strengths and turn external threats become opportunities for company to respond to the market.
- Weaknesses- Opportunities Strategy: Turning the weaknesses and consider opportunities to develop strategies.
- Weaknesses- Threats Strategy: Take weaknesses to develop and enhance the threats to respond the potential market





**Figure 2.9 TOWS Matrix**

Source: (MIM lectures, 2020)

### 2.2.6 Grand Strategy Matrix

Grand Strategy Matrix is a tool for designing alternative and distinct strategies for the business. All companies and divisions can be positioned in one of the Grand Strategy Matrix's four strategy quadrants. Competitive position and market growth are two dimensions used in The Grand Strategy Matrix.

- Quadrant I: It represents a rapid growth market, and the firm has a solid competitive position in the market.
- Quadrant II: A small competitive position of the company in a considerably growing market.
- Quadrant III: Company has a limited position in the competition, and the market grows slowly.
- Quadrant IV: Weak growth rate of the market while the company has a marked competitive market position.



**Figure 2.10 Grand Strategy Matrix**

Source: (MIM lectures, 2020)

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

This chapter explain the research methodology and data collection used in this study. The research design is consisted of five steps which are Problem Definition, Framework Development, Data Collection, Developing Tools, and Analysis.

#### **3.1 Research Design**

The Toulouse School of Management team or TSM team formed the multicultural team which consists of four members from four different countries. TSM team with a French academic tutor had meetings together and discussed the concept of market analysis before starting to have a meeting with AB. The consulting internship with AB took two months in Toulouse, France. The TSM team had the meeting with AB weekly and everyday meeting within the TSM team. The details and stages of this study as follow.

##### **3.1.1 Problem Definition**

In the first step, the TSM team received the topic, market analysis, from AB, France. AB briefed the problems that AB had, and AB prefers to have a market analysis to identify the competitive advantages of AB. The TSM team had a meeting with the Head of Sales Operations Asia of the Sales Department in order to have more details at AB Headquarters.

AB does not have a specific market analysis department for the Chinese market. Hence, AB needs analysis of China's market environment to see what has happened and the current and upcoming trends that could be leveraged to increase sales in the region. Assessing competitive advantages of AB to improve insights towards the markets and use the conclusion as a guide for the sales team to increase sales revenue,

strengthen the position and sustain its business in the Chinese market by specific strategies for the Chinese commercial aviation market.

### **3.1.2 Framework Development**

There are many tools to analyze, but AB would like to use only practical tools but also align with the available information. Also, the framework should be suitable for their assessment. After many reviews and discussions, AB ignored the unrelated framework and agreed to use selective tools for the analysis and progressively use them for further potential analysis, then lastly, use it for conclusion and recommendation for the concerned market.

### **3.1.3 Data Collection**

The information gathered from secondary sources such as reliable internet resources, academic online published articles, and Government data about the market. Furthermore, AB and TSM team also contacted the universities to have grant access necessities data and researches to have the insight knowledge from and advice from experts about the topic. Moreover, the TSM team also contacted the China Civil Aviation Administration through emails and phone calls to have interviews with the firm to gain more information and understanding regarding the Chinese aviation market, cited in the report. Moreover, the TSM team also tried to contact the companies operating in the market, for example, China Airlines, which has the dominant market share. China Airlines should have meaningful information that is valuable for the analysis, but they were unwilling to share some company's sensitive data. Therefore, information that the TSM team used gave information from the China Civil Aviation and some airlines and gathered data from online sources and reliable sources.

For those internal and external information related to AB company, TSM decided to conduct interviews with the Sale Department; the interviews consist of five Sale Department members and the manager. Furthermore, since the Chinese market is a potentially significant market, the Chinese market has a team of six focusing on the Chinese commercial aviation market only. TSM team also makes several interviews to understand deeply about AB company in the Chinese market. Furthermore, to avoid bias on the

information, the TSM team also looked for reliable resources and related academic articles to gather data and information.

Lastly, when finishing gathering data and information, the TSM team, academic tutor, and Sale Department manager went through again, discussed further to decide the best unbiased, reliable but correctly reflecting the business to start analysis and develop tools. Those selective data and information were also consulted with professors and experts to further comments and feedback.

### 3.1.4 Developing Tools

AB provided the related campaign as a reference for double check the data with the gathered data from sources. The campaign included the list of aircraft have been sold, the manufacturing code, type of aircraft, listed customization and further information. Main tools are used are PESTLE and Porter's Five Forces to make sufficient analysis for the market, thus the external factors influencing the market are fully considered.

PESTLE is to have a better understand the impact of the external environment factors on the industry, PESTLE model is built. These factors are independent from the industry but have a direct impact on its operation and strategy. That is the reason why it is essential to always have an oversight on their evolution. PESTLE was performed by recommendation of AB Vice President Enterprise Architecture & Strategy through four following steps:

- Brainstorming the factors to be used in the tool.
- Verifying the available research reports and reliability of the resource, including the detailed and statistical analysis in order to specify the impact and likelihood of these factors.
- Validating the influence of the factors.
- Choosing the most influential factors impacting the company to be on the PESTLE chart.

Impact analysis would be evaluated from -2 to 2, which means very negative to very positive impact, and 0 which means neutral factors. The Likelihood is rated on a scale from 0 to 1, 1 means more likely to happen, whereas 0 means an unlikely phenomenon. The influence was measured by multiplying the Impact and the

Likelihood. After that the most significant factors that impacts on the company operating are chosen to have further analyses.

Porter's Five Forces is to analyze the competitive environment that affects the company through five threats. Information was selected carefully to justify the effects to the company specifically

SWOT analysis was performed by “Analysis Tool” from experts in the aviation industry and experienced professors from Mahidol University. After analysis it is given scored weights for each factor, Weaknesses and Strengths factors are grouped to be IFE Matrix then giving the ratings based on the characteristics of the factors. EFE Matrix is formed by Opportunities and Threats factors, ratings are given depending on how company reacts with those factors.

For IFE Matrix (Strengths and Weaknesses)

- 1 = Major Weakness
- 2 = Minor Weakness
- 3 = Minor Strength
- 4 = Major Strength

For EFE Matrix (Opportunities and Threats)

- 1 = Company's response to the external factor is poor
- 2 = Company's response to the external factor is average
- 3 = Company's response to the external factor is above average
- 4 = Company's response to the external factor is superior

IE Matrix is a combination of IFE scores and EFE scores shown as a balloon in the matrix to understand the readiness of the company and suggestions whether the company is ready for global market or need to improve their internal process first.

VRIO framework is to evaluate the resources of the company to understand whether the company is ready for the market or not. Internally selective information is chosen to use in the analysis to have the best understanding of competitive advantages of company.

TOWS is derived from SWOT analysis to create strategies based on those internal and external factors affecting the business such as Strength- Opportunity

strategy, Strength- Weakness strategy, Weakness- Threat strategy and Weakness- Opportunity strategy accordingly to those analyzed factors.

Grand Strategy Matrix is a tool help to shape those suitable strategies based on the growth of market and the position of the company.

### 3.1.5 Analysis

The objective of this research and how the data was analyzed is shown below:

**Table 3.1 Research Objectives**

Objectives	Analyses
Objective 1: Analyze the External Factors Influencing AB	Porter's Five Forces - Evaluate the competitive environment of AB by measuring the level of threat that AB should focus. Five different threats are: The bargaining power of buyers, the bargaining power of suppliers, threat of new entrants, threat of product substitution and competitive rivalry PESTLE Analysis - Determine how macro environmental factors impact AB performance. The analysis includes Political, Environmental, Social, Technological, Legal and Economics factors

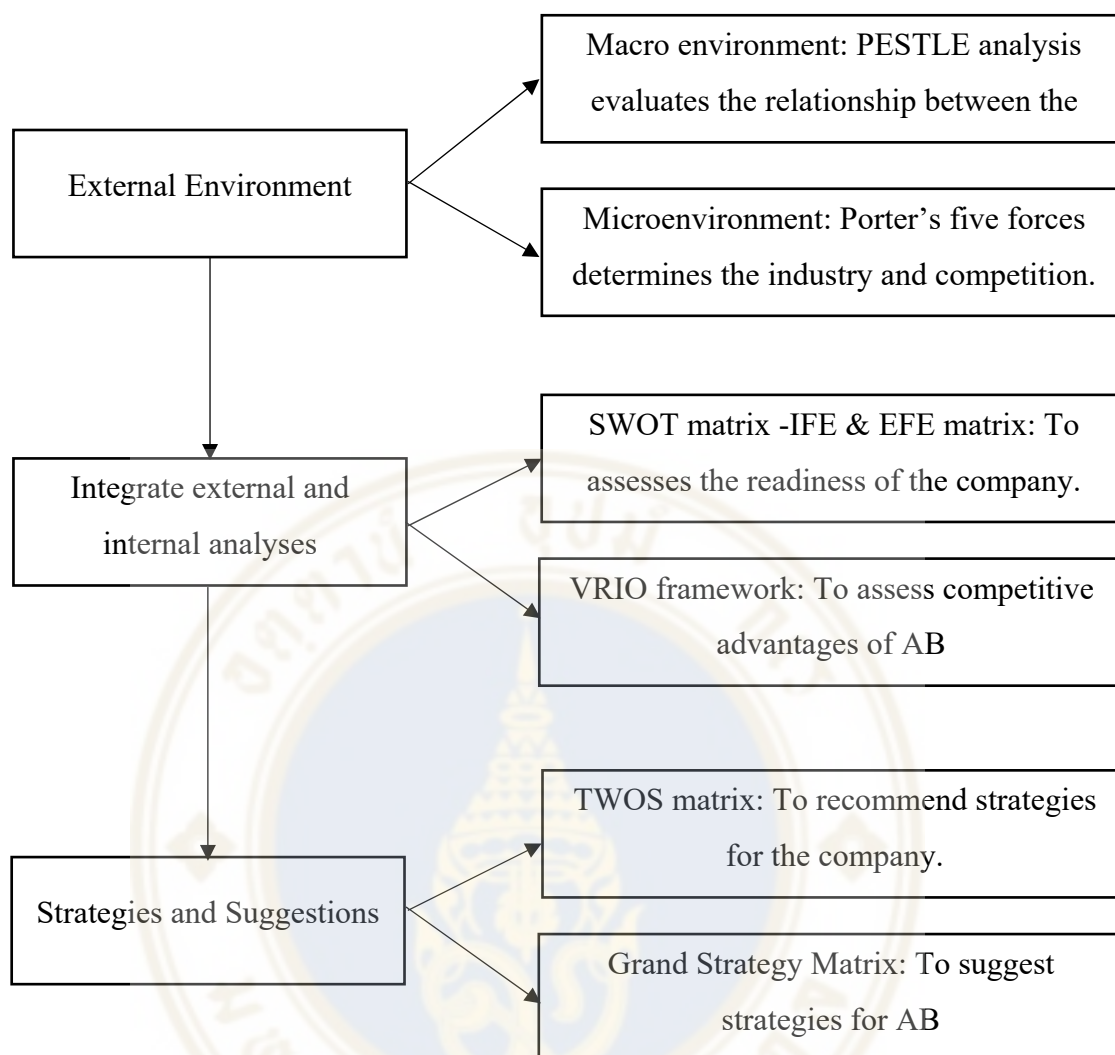
**Table 3.1 Research Objectives (cont.)**

Objective 2: Analyze the Readiness of AB	<p>SWOT Matrix:</p> <ul style="list-style-type: none"> <li>- IFE &amp; EFE matrix too assess the internal and external factors affect AB business through weighted scores of Strengths, Weaknesses, Opportunities and Threats.</li> <li>- Evaluate readiness through relative IE matrix.</li> </ul> <p>VRIO framework:</p> <ul style="list-style-type: none"> <li>- Evaluate competitive advantages of AB</li> </ul>
Objective 3: Recommend suitable strategy	<p>TOWS analysis</p> <ul style="list-style-type: none"> <li>- Synthesize and create relationship of internal and external factors through SO, WO, ST and WT strategies</li> </ul> <p>Grand strategy analysis</p> <ul style="list-style-type: none"> <li>- Creating alternative and different strategies for the organization through two dimensions competitive position and market growth.</li> </ul>

### 3.1.6 Framework

PESTLE, Porter's Five Forces, SWOT & TWOS analysis, IE Matrix and Grand Strategy Matrix are all utilize basic frameworks for evaluate situation of the company. The objective of literature review in this thematic paper is to review related literatures, theories and necessary tools to the research of this dissertation. Figure below indicates the theoretical framework and the list of literature, theories and tools that would be covered in this chapter.





**Figure 3.1 Research Framework**

### 3.1.7 Validity and Reliability:

The term validity indicates how well the study's measuring instruments satisfy the demand to cover what it intends to contain. The researcher's misunderstandings or faulty memory are common in prolonged and consecutive interviews, affecting the study's validity. To avoid the obstacle the most as possible, the TSM team took notes individually and cross-check each other to ensure the information is accurate; the team also asked for recording during the interviews. Instantly after the interviews, TSM consolidated data from interviews and transformed it into valuable and precious information. The result was discussed with the academic tutor for valuable

feedback and explore the best method of interpreting the answers perfectly. Furthermore, the TSM team also presented the AB Sale manager with the results to further discuss the result's validity.

Reliability is a measure of how well the study actually measures what it is supposed to measure, i.e., the deficiency of including random errors. Those gathered information was selected under five years as the nature of the business; the information would change frequently that affects the study's reliability. Moreover, it was also discussed with the AB sales manager and academic tutor separately to ensure that the collected information was unbiased and reliable. Furthermore, professors of TSM and experts who have experience in the aviation industry are also reviewed by those selected data and information.



## **CHAPTER IV**

### **FINDINGS AND ANALYSIS**

This chapter, the study presents the results as followed.

#### 1. AB Company

- AB Overview
- AB Financial Analysis

#### 2. The External Factors Influencing AB

- Key Factors Influencing the Industry
- Competition Intensity of Chinese Aviation Industry

#### 3. Readiness of AB

- SWOT Analysis
- VRIO Framework

#### 4. Strategies Design

- IE Matrix - TWOS Matrix
- Grand Strategy Matrix

### **4.1 AB Company**

#### **4.1.1 AB Overview**

The formation of AB was the result of the recognition of the monopoly that Boeing created in the aeronautics industry in the United States and the call for a European equivalent. This effort was necessary both for economic and social growth. Firstly, for Europe's region to get started on this massive feat, it was apparent that a joint effort was needed as one single country would struggle to make any serious headway in due time. The origins of the joint effort were made up of cooperation on the Franco-German axis. On May 29th, 1969, an intergovernmental agreement established cooperation between French and German industrialists, which ensured that the

businesses in both countries looking to enter the industry could work together with little to no limitations, which would lead to maximum productivity. A decade later, in 1979, after advancements and progress from France and Germany's union, the Spanish government joined the agreement and quickly followed the United Kingdom. This agreement's initial goal was simple, and that was to build Europe's own 300-person civilian aircraft and then further progress from there. In 1972 this goal was met, and the AB A300 made its maiden voyage. The company only received orders of 15 aircrafts that year due to skepticism and that this was their first real aircraft to hit the market. Although the A300 had a slow start, with the help of CEO Bernard Lathiere and some good marketing, the organization had 256 orders for the A300 by 1979. The CEO achieved this by a marketing campaign, the aircraft as a more economical equivalent to the aircraft that Boeing was producing, specifically to the Asian and North American markets. In addition to this, in 1978, AB released its second aircraft, the A310. At this point, AB was gaining some momentum in the industry and was beginning to become recognized. Research, development, and production continued until 1987 when AB released the A320, which had a company record of 400 orders. The release of the A320 officially established AB as a significant player in the Aeronautical industry.

After approximately fifty years of struggles, doubts, perseverance, and development, AB finally gained a similar status in esteem and success that Boeing possesses. In the present day, AB has its main office located in Toulouse, France, where the majority of the final assembly takes place and where the bulk of the company is located. The company has grown from an idea to a company with over 130 thousand employees operating in 16 different countries, including people from 135 different nationalities. AB now has many subsidiaries that focus on different aspects of the overall companies' operations. The organization was built on cooperation, and that business model is still very much in place today. The company relies on the skills and know-how of the people it employs across the globe. Its reach and efficiency are built on its subsidiaries, spare part centers, training centers, and representative offices located in Asia, Europe, the Middle East, and America. Additionally, AB has strategic alliances across the globe with major companies and a massive network of suppliers that are happy to help when needed.

### 4.1.2. AB Financial Analysis

To provide a more comprehensive analysis of AB's current financial position and performance, it is decided to analyze the firm's consolidated financial statements as it gives us a more accurate view of the organization as a whole. The financial ratios that our team produced can be seen directly below.

#### 4.1.2.1 Sales

**Table 4.1 Margin Ratio**

Margin Ratio	2019	2018	VAR 2019-2018
Revenues	70478	63707	10.63%
CoGs	59973	54920	9.20%
Gross Margin	10505	8787	19.55%
EBIT	1339	5048	-73.47%
EBITDA	4266	7492	-43.06%
NET PROFIT	-1325	3011	-144.01%

AB's revenue has been stable for the past two years. This is mainly due to part to similar sales in the aerospace division both in 2018 and 2019. In 2018, AB produced and delivered 863 aircraft, up 63 units from 2018, where they produced 800 aircraft. It is observed that the revenues coming from the Defense and Space sector were 7% higher, principally due to the increase in sales of military aircraft. That said, the Helicopter division revenue has increased, with a slightly increasing number of deliveries (158 units in 2018 vs. 163 units in 2019). While not a significant decrease in production, it could indicate the market or increased interest in other sectors.

In addition to all of this, a general improvement of 19.55% of the profit from selling products and services. This progress can be explained by AB reducing the general cost on specific aircraft programs but also by redeveloping and optimizing the delivery system that it previously had in place. It has allowed the company to make considerable economic efforts, overall reducing the general cost of sales and leading to the completion of a recorded delivery of 863 aircraft, as previously

mentioned. Based on this statement, with production rates and revenues growing, it appears as though AB is headed in the right direction for continued success.

AB reported a net loss of 1325 million euros in 2019 after the bribery scandal cost 3.6 billion euros and extra costs for the A400M transport aircraft development.

#### 4.1.2.2 Profitability

After analyzing the organization's overall sales performance and evolution in 2019, focusing on the profitability ratios to understand what resources the company has used and its efficiency in using them to generate profit further.

**Table 4.2 Gross Margin Ratio**

<b>Gross Margin Ratio</b>	<b>2019</b>	<b>2018</b>	<b>VAR 2019- 2018</b>	<b>Industry Average</b>
Gross Margin Ratio	14.91%	13.79%	8.07%	36.3%
EBIT	1.90%	7.92%	-76.02%	9.7%
EBITDA	6.05%	11.76%	-48.53%	14.2%
NET PROFIT	-1.88%	4.73%	-139.78%	6.9%

Although the gross margin ratio appears to be better than last year's with 14.91% (a gross of about 8.07%), which can be explained by the reduction in operating costs; however, an operating profit of 1.90% (around 75% less than 2018), it is because of the administration expenses increasing by around 43% due to the final agreements with French Parquet National Financier (PNF).

**Table 4.3 Profitability Ratio**

<b>Profitability Ratios</b>	<b>2019</b>	<b>2018</b>	<b>VAR 2019- 2018</b>	<b>Industry Average</b>
Profitability Ratios				
ROA	-1.16%	2.61%	9.7%	5.3%
ROE	-22.12%	30.98%	6.9%	16.3%

The Return on Assets (ROA) ratio shows the general performance of the AB Group. The organization has been able to use its assets much

less efficiently to result in a drastic negative 144.31% reduction in profit generated by its assets. However, although understandable for an asset-intensive industry that for example, needs to renew its Property, Plant, and Equipment more often than others, looking at the industry average of 6.16%, it still stays below the average and would require more effort in the management of its assets to grow the profit generated by them. Furthermore, the scandal makes the effort of AB on the whole year becoming an unfavorable fiscal year. On the other hand, the loss also made through its general equity and liabilities, which has also gone down by another 72%. However, shareholders' equity has gone down to -22.12%, a decrease might indicate bad management and allocation of resources, but still, ROE is hard to show whether AB is doing well because of the scandal. However, if ignoring the bribery scandal expenses, the company is doing poorly in the fiscal year 2019 and 2018, representing a lack of ability to manage the company's finance.

#### 4.1.2.3 Liquidity and Solvency

The company's ability to pay its short-term financial obligations with its current assets stays relatively consistent in 2018. The company was able to pay off its debts in full. It can also be seen a drastic rise (66,78%) in the Debt to Equity ratio, which confirms that the firm tends to use its equity more than the previous year to leverage its assets. Although its Debt to Equity Ratio, which increases in 2019 but still relatively less than 2016 (4.80), shows investors that the company's endeavors do not rely on equity and debt to finance its assets and thus reduces the risk of shareholders.

**Table 4.4 Liquidity Ratio**

Liquidity Ratios	2019	2018	VAR 2019- 2018	Industry Average
Current Ratio	0.91	0.97	-5.86%	1.12
Debt to equity Ratio	2.41	1.39	66.78%	0.36

This cash conversion cycle has also been calculated ratios that allow us to analyze the company's ability to sell its current inventory, collect cash, and pay its outstanding bills to suppliers. The results can be found below.

**Table 4.5 Cash Conversion Cycle**

Cash Conversion Cycle	2019	2018	VAR 2019-2018	Industry Average
CCC	129.01	153.25	36.3%	165.6
DIO	193.05	210.53	9.7%	135
DSO	30.43	41.35	14.2%	82
DPO	94.47	98.63	6.9%	76.4

It takes 193 days to the company to sell its inventory, which is not surprising for a company that produces and sells on command; also, AB is a company that heavily relies on global supplies, running numerous projects making AB has to spend more time to wait for all parts to execute the assembling processes. Moreover, with regards to the collection of cash and receivables, although the decrease is small, AB still is looking at reducing the days to the collection of cash, even though it can be difficult in an industry with large and expensive products such as an aircraft. However, the company has still been able to hold onto cash for a long time regarding paying its bills, executes the day's sales outstanding and days inventory outstanding, which has compensated the smaller amount of cash conversion cycle in 2019 which is because AB is a big company with the reputation which brings it more creditability compared to other companies. Overall, the company has proved to make good choices and manage its cash efficiently.

#### 4.1.2.4 Working Capital

**Table 4.6 Working Capital**

Working Capital	2019	2018	VAR 2019-2018
Working Capital	-5651	-2054	63.65%

The working capital measures the company's operational efficiency and its short-term financial health. In 2019 and 2018, the company had negative working capital, showing its assets were not used efficiently. AB was not able to pay the creditors and suppliers in time, which is a problem regarding image and



responsibility. The less it can pay, the fewer suppliers and creditors might grant it when the company reaches points where it needs to borrow. Additionally, AB cannot raise cash quickly as the company sells its products on a long-term payment basis, so having enough working capital is desirable. 2018 was definitely a lousy performance fiscal year of AB, still, 2019 is a more promising year, as the company was able to reduce the trade liabilities, but current tax liabilities were unexpected high because of PNF's agreement.

## **4.2 The External Factors Influencing AB**

### **4.2.1 Key factors Influencing the Industry**

To better understand the impact of the external environment factors on the industry, PESTLE model is built. These factors are independent from the industry but have a direct impact on its operation and strategy. That is the reason why it is essential to always have an oversight on their evolution.

PESTLE was performed by four following steps:

- Brainstorming the factors to be used in the tool.
- Verifying the available research reports and reliability of the resource, including the detailed and statistical analysis in order to specify the impact and likelihood of these factors.
- Validating the influence of the factors.
- Choosing the most influential factors impacting the company to be on the PESTLE chart.

Impact analysis would be evaluated from -2 to 2, which means very negative to very positive impact, and 0 which means neutral factors. The Likelihood is rated on a scale from 0 to 1, 1 means more likely to happen, whereas 0 means an unlikely phenomenon. The influence was measured by multiplying the Impact and the Likelihood.

**Table 4.7 PESTEL Analysis of All External Factors**

<b>Factors</b>	<b>Impact</b>	<b>Likelihood</b>	<b>Influence (Impact x Influence)</b>	<b>Factor's Characteristic</b>
<b>Political Factors</b>				
Foreign ownership policy	-0.5	1	-0.5	Compliant with the legal framework
Chinese government's civil aircraft procurement policy	1.5	1	1.5	Compliant with the legal framework and the situation of the country
Aviation policy	0.7	0.3	0.21	Compliant with the legal framework
<b>Economic Factors</b>				
Chinese Macroeconomic Development in Recent Years	-1.4	1	-1.4	Depends on the situation of the country and how the Government handle it
Disposable income of Chinese residents	0.8	0.7	0.56	Economics situation of country
Fuel costs	0.5	0.8	0.4	Global situation

**Table 4.7 PESTEL Analysis of All External Factors (cont.)**

<b>Social Factors</b>				
China's urbanization process continues to advance	1.5	0.7	1.05	Adjusted to people's perceptions
China's population in the world	1	0.8	0.8	Free
Overseas tourism brought by the emerging middle class	0.8	1	0.8	Free
<b>Technological Factors</b>				
The development of Chinese aviation industry requires the technical support of AB	1.4	1	1.4	Development of technology
Industrial cooperation between AB and Chinese aviation industry	0.8	1	0.8	Diplomatic relationship
Social media	0.5	0.6	0.3	Internet trends
<b>Legal Factors</b>				
Chinese import tariffs on civil aircraft	-0.6	0.8	-0.42	Diplomatic relationship

**Table 4.7 PESTEL Analysis of All External Factors (cont.)**

USA China trade war	-0.9	1	0.9	Diplomatic relationship
<b>Environmental Factors</b>				
Carbon emissions and greenhouse affect	-0.5	0.5	-0.25	Compliant with the legal framework and people's perceptions
Pollution	-0.4	0.8	-0.32	Compliant with the legal framework and people's perceptions
Diseases	-1.5	0.7	-1.35	Free

The twelve most influential factors can be ranked by their level of impact as shown in Table 9.

**Table 4.8 The most Important Factors According to PESTEL Analysis**

<b>Political Factors</b>	<b>Economic Factors</b>	<b>Social Factors</b>	<b>Technical Factors</b>	<b>Legal Factors</b>	<b>Environmental Factors</b>
Chinese government's civil aircraft procurement policy	Chinese Macro-economic development	China's urbanization process continues to advance	The required technical support	Chinese import tariffs on civil aircraft	Diseases
	Disposable income of Chinese residents	China's population in the world	Industrial cooperation	USA China trade war	Pollutions

**Table 4.8 The most Important Factors According to PESTEL Analysis (cont.)**

		Overseas tourism			
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#### 4.2.1.1 Political Factors:

##### *Chinese government's policy*

In China, any airline plans to purchase civil aircraft must be approved by the Civil Aviation Administration of China and the National Development and Reform Commission. After the airline makes a purchasing decision, the procurement approval process is divided into two steps. First, the procurement plan needs to be reported to the Civil Aviation Administration of China for approval. In order to ensure the healthy development of the industry, the Civil Aviation Administration implements a moderately tight or loose capacity control policy based on the operating conditions of the air transport market and the airspace resource conditions, thereby making the initial approval of the introduction plan. After the initial approval is passed, it will be reported to the National Development and Reform Commission for the final and decisive approval. Aircraft procurement is not a purely commercial activity and is constrained by a variety of complex factors such as foreign policy and trade balance. The National Development and Reform Commission (NDRC), after balancing the effects of factors in various aspects, finally decided on the aircraft suppliers, aircraft models, and quantities that each airline is allowed to purchase. Therefore, the Civil Aviation Administration and NDRC have played a decisive role in aircraft purchasing decisions in China.

However, due to a variety of factors before a final decision can be taken, this directly leads to distortions in aircraft supply and demand. For example, airlines want to purchase aircraft at a time when the industry is in the doldrums so that they can use low prices to save purchase costs, while it takes a long time from order to delivery. However, during the economic downturn, the government strictly controlled the growth of capacity, making it difficult for airlines to apply for new orders. Not only that, sometimes airlines do not have the need to purchase new aircraft, and because some national decisions are forced to purchase aircraft, this creates a mismatch.

As mentioned above, aircraft procurement is also constrained by foreign policy and trade balance. Such as on January 1, 2012, the EU carbon emissions trading system officially included the aviation industry, which means that all flights arriving at or departing from airports in EU member countries will be subject to a carbon tax. When the bill came out, it caused strong opposition from countries including China and the United States ("Countries oppose CO<sub>2</sub> tax on Jets," 2012). That year, China postponed and blocked orders for 35 A330 aircraft from mainland Chinese airlines and 10 A380 aircrafts orders from Hong Kong Airlines, with a total value of more than the US \$ 12 billion, with the intention of putting pressure on the EU with buyer power (Hepher, 2012). According to AB forecasts, China will replace the United States as the world's largest domestic aviation market by 2025 (IATA,2019). China will use this as a bargaining power to balance trade friction.

#### 4.2.1.2 Economic Factors:

##### *Chinese Macroeconomic*

With the combined effects of cyclical and trending forces, such as slowing global economic growth, increasing Sino-U.S. trade frictions, and falling internal demand, the Chinese macroeconomy in 2019 continued its weak trend since 2018, showing a "continuous slow down "Situation. The real GDP growth rate in 2019 is expected to be 6.1%, a decrease of 0.5 percentage points from 2018 ("China Statistical Yearbook," 2019).



**Figure 4.1 China GDP Growth Rate**

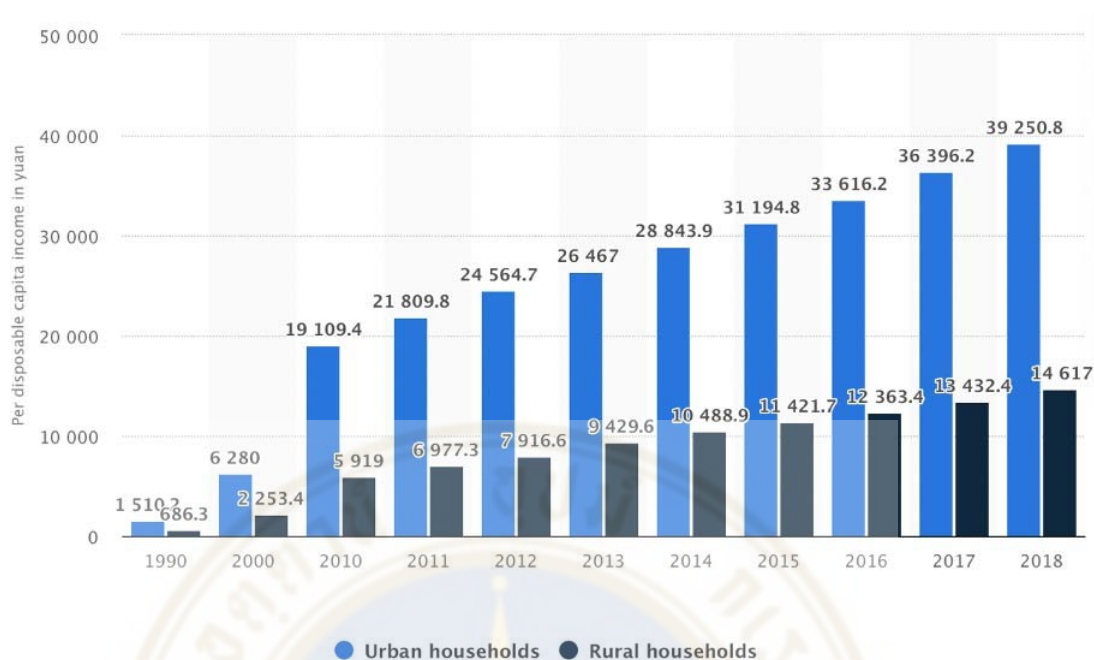
Source: (WorldBank, 2020)

With the superposition of trending and cyclical factors and the strengthening of international and domestic unfavorable factors, it is expected that the economic growth rate will further slowdown in 2020. Under the influence of cyclical power changes, the Chinese Economy's elasticity and toughness will continue to show. It is predicted that the real GDP growth rate in 2020 will be 5.9%, which is 0.2 percentage points lower than the growth rate in 2019. Simultaneously, as the GDP deflator index rose to 1.1%, the nominal GDP growth rate in 2020 was 7%, a decrease of 0.6 percentage point from 2019, and the decline was significantly narrowed (Chinese Economy, 2019). With the decline in domestic and foreign demand, investment and consumption growth will stabilize and bottom out in 2020, but it is still difficult to rebound effectively.

In 2019, under the influence of multiple factors such as the intensification of the Sino-U.S. Trade conflict, the simultaneous decline of the world economy, the continued fermentation of domestic structural factors, and the increase in cyclical downward forces, Chinese macroeconomic bid farewell to the 2016-2018 steady trend.

#### *Disposable income of Chinese residents*

Per capita disposable income will, to a certain extent, affect the way people choose long-distance travel, and it will also affect the demand market for Chinese air passenger transport. When the disposable income of Chinese residents increases, residents will choose to travel long distances and can afford higher travel costs. Maslow's demand theory also says that after meeting low levels of consumption, people will generate higher levels of demand, and when there is a certain amount of disposable wealth, people will increase higher levels of demand. Per capita disposable income increases people's demand for travel. Therefore, as civilian disposable income changes, so does the demand for air transport.



**Figure 4.2 Annual per Capita Disposable Income of Rural and Urban Households in China from 1990 to 2018**

Source: (Statista,2020)

#### 4.2.1.3 Social Factors

##### *China's population in the world*

The service body of civil aviation transportation is people, so the size of the civil aviation market depends to some extent on the size of the population, and then determines the demand for the civil aviation market. The larger the country's population base, the higher the population growth rate, the higher the proportion of urbanization of the population, the younger the population, and the higher the proportion of high-income people, the greater the demand for civil aviation passenger transport in this country.

In 2020, the total population of mainland China reached 1.4005 billion. From the perspective of age composition, the working-age population of 16 to 60 years, accounting for 67.6% of the total population. From the perspective of urban and rural structures, the urban resident population is 875.08 million, and the rural resident population is 564.25 million. The urban population accounts for 61% of the



total population. This shows that China's total population accounts for one-fifth of the world's population, of which the working-age population accounts for 70% of the total population ("China Statistical Yearbook," 2019). In China, the urban population between the ages of 16 and 60 is the main group that chooses air travel. This is obviously not proportional to the current proportion of China's air transport in the world. It can be seen that the potential demand for air transport in China will be huge.

### ***China's Urbanization Process***

The advancement of urbanization has brought about the construction of urban infrastructure, on the other hand, including the country's new construction and expansion of urban airports. With the continuous improvement of urban infrastructure, residents' consumption will also be promoted to a certain extent. This is good news for aircraft manufacturers like AB. On the other hand, the advancement of urbanization has also accelerated the pace of people's lives. People are more willing to choose fast travel methods to save time, which undoubtedly increases the demand for air transportation to a certain extent. The process of urbanization in China has never stopped. Although China has always been a largely agricultural country, rapid urbanization has caused a landmark change in the population structure in recent years. The rapid development of Chinese urbanization means that Chinese domestic consumption will continue to increase, and investment will continue to expand. These are the two most important of the three troikas that are driving the current Chinese economy. Statistically, China has become an "urbanized" country. By 2020, China's urbanization rate is expected to reach 55% ("China Statistical Yearbook," 2019).

### ***Overseas Tourism Brought by the Emerging Middle Class***

The development of Chinese cities has also made the middle class rapidly grow into a backbone of social development at a rate far faster than expected. Data show that the Chinese middle-class population will reach 40% of the total population by 2020, double the number in the early 2000s. It will have a profound and far-reaching impact on the social structure, as well as the political, economic, and cultural development patterns of Chinese cities ("China Statistical Yearbook," 2019).

According to the definition of the Allianz Global Wealth Report, per capita, wealth is between 3,000 euros and 6,000 euros, which can be defined as the middle class. Different from the economic weakness of developed countries such as

Europe and the United States in the past few years, China has been unique in this crisis, with per capita financial assets reaching 3,000 euros, and personal wealth has grown rapidly, five times that of ten years ago. As a result, more and more Chinese are now among the rich middle class. Today, more than 100 million people in China belong to the affluent middle class, accounting for a quarter of the global affluent middle class.

The growth of the Chinese middle class has led to the development of tourism that actually stimulated the development of the Chinese international air transport industry. It is estimated that by 2020, China will reach 200 million overseas trips each year. Such significant growth is mainly due to the relaxation of government restrictions on outbound travel and the growing size of more Chinese middle classes ("China Statistical Yearbook," 2019). Although Chinese overall economic growth has slowed in recent years, the booming tourism market has not been affected at all. Out of yearning for overseas countries and fresh experiences, Chinese people's willingness to travel abroad is still extreme. The increase in overseas tourism will inevitably prompt China to relay out a relatively small number of overseas airline networks and introduce more mainline aircraft to meet the increased demand for long-haul voyage market.

#### 4.2.1.4 Technology Factors

##### *The Development of Chinese Aviation Industry*

In any country, the aviation industry should be a strategic industry. The aviation industry is a technology-intensive industry that can drive innovation and apply these technologies to national defense aspects. However, the Chinese aviation industry is still relatively backward compared to developed countries in Europe and the United States. Therefore, China needs the help of world-leading aviation companies such as AB and Boeing to learn from their technology and develop their own. Through the former Soviet Union study, China built its own aircraft manufacturing plants, technology research and development centers, and talent training institutions, which laid the foundation for the Chinese aviation industry. During the period of reform and opening up, China established its own aviation industry import and export company. Since then, it has opened the door to foreign exchanges and injected fresh catalyst into the development. Since then, the Chinese is making every effort to reduce the gap at the international level. The goal is to enhance the Chinese

technological level and gradually develop from the production of components to large parts' production. Eventually, China is finally capable of producing its own large aircraft. However, it didn't reach the international mainstream level in terms of performance.

### ***Industrial cooperation***

AB reaffirms its dedication to its long-term strategic alliance with the Chinese aeronautics industry and has endorsed a new agreement with AVIC to intensify industrial collaboration on AB single-aisle generation. The collaboration with AVIC will heighten AB single-aisle aircraft fuselage assembling in Tianjin, China (Zhuang, n.d.). The earliest delivery of a China-equipped AB single-aisle aircraft fuselage is scheduled in Q2 of 2021. The signature is a milestone in AB and Chinese win-win successfully negotiated partnership, which lasts the benefit of both parties' aviation industry in terms of scale and quality.

Industrial agreement between AB and the Chinese aviation industry on commercial aircraft records back to 1985 at the signing of the first subcontracting arrangement with Xi'an Aircraft Company (currently AVIC Aircraft Co. Ltd) on construction and assembling entrance doors for AB A300 family and A310 family wide-body aircraft.

The total value of industrial agreement between AB and the Chinese aviation industry touched US\$900 million in 2018. AB technology transfer to the Chinese aviation industry: AB sees the Chinese aviation industry's strong desire for technology, and it also sees the Chinese government's pivotal role in the procurement of mainline aircraft. Therefore, AB is willing to help the Chinese aviation industry at the cost of some technology transfer. In exchange for more orders from China. For example, AB transferred the A320 wing structure manufacturing technology to China without reservation. It is well known that AB's wing manufacturing technology is the world's most advanced, and the A320 is the world's best-selling single-aisle aircraft. This technology transfer with China can be said to be unprecedented, and AB has not conducted similar cooperation with any other country.

In the past ten years, China is vigorously developing its own aviation industry and is currently in the bottleneck period of lacking technical experience. Through continuous cooperation with Chinese aviation industry enterprises,

joint ventures to set up factories, and at the cost of exporting a small amount of technology, in exchange for the Chinese government's investment in AB factories and large-scale purchase orders for AB aircraft.

#### 4.2.1.5 Legal Factors

##### ***Chinese import tariffs on civil aircraft***

On August 29, 2013, the Ministry of Finance of the People's Republic of China and the National Administration of Taxation jointly issued the "Notice on Adjusting Value-added Tax Policies for Imported Aircraft" (Cai Tariff [2013] No. 53). With the National Council's approval, starting from August 30, 2013, for imported aircraft with an unloaded weight of more than 25 tons, the value-added tax rate levied at the import stage was increased from 4% to 5%. On the same day, the General Administration of Customs of China issued the Announcement on Adjusting the Import Tariff Rates of Lignite and Other Commodities (General Administration of Customs Announcement No. 49 of 2013). Among them, since August 30, 2013, the Passenger aircraft of 25 tons but less than 45 tons are levied a tentative import tax rate of 1%, and the 5% MFN tax rate is restored. The policy is to reduce the value-added import tax at 5%, and the portion of value-added import tax that has been levied at a rate of 17% in excess of 5%, without deduction of input tax, will be refunded.

Under the business tax system, tariffs and VAT are both included in the cost of aircraft introduction. Therefore, regardless of the adjustment of the tariff rate or VAT rate of imported aircraft, it will directly affect the aircraft introduction cost. VAT is an extra-value tax under the business tax to VAT system and does not include the cost of the introduced aircraft. The VAT paid on the introduced aircraft can be deducted when the VAT is paid. Changes in the VAT rate will not affect Aircraft introduction costs; tariffs are in-price taxes, and changes in tariff rates will affect aircraft introduction costs.

Aircraft costs usually account for about 15% of airlines' total operating costs, and a 1% increase in value-added tax means an increase of about one-thousandth of the total costs within the range. However, the increase in taxation means that airlines' cost is increased, which poses a more significant challenge to airlines' profitability facing high costs and increased competition.

### ***USA China trade war***

April 2019, the Ministry of Commerce clearly stated that a 25% tariff would be imposed on aircraft and aircraft imported from the United States with an unloaded weight of 15 to 45 tons. Boeing's best-selling and most widely used model is the 737-passenger aircraft. The most well-known airlines in mainland China basically use this model as their main capacity. The Boeing 737's no-load weight is about 43 tons, not less than 42 tons and more than 44 tons, which is the same level as the AB A320. Under normal circumstances, if an aircraft such as the Boeing 737 is imported, mainland China customs only levies a 5% tariff. This tax rate is actually relatively low, and most airline companies can afford it.

#### 4.2.1.6 Environment Factors

##### ***Pollutions***

China's aviation industry has grown from virtually nonexistent in the 20th century to be the world's second largest by 2005. According to published researches in 2018 by the International Council on Clean Transportation (ICCT), Chinese flights released more than 95m tons of CO<sub>2</sub> emission, polluting up 13% of total global aviation emission. The only sector to emit more carbon was the U.S., which is also the only aviation market larger than China. China could easily surpass the US in emissions in the 2020s. Chinese aviation per capita emissions are quite low. Airlines only emitted 0.09 tons of CO<sub>2</sub> per capita compared with 0.57 tons per capita in the U.S. and 0.86 in the U.K.

Airline operators are under a growing obligation to limit their pollution as time moves to permanently prevent the earth's average warmth from rising to conceivably catastrophic levels. The rapid increase in Chinese air transport is foreseen to advance, which poses critical challenges to aviation industry in lessening carbon emissions. China has the potential to create one of the most efficient aviation markets of a country. The country's per capita wealth has been steadily growing, making more wealth available to invest in environmentally friendly resources and programs. As China strives to become a global social and economic leader, it is in their best interest to create precedents that will lead the world toward increased efficiency and even carbon neutrality. The country already has below-average per-capita emissions and investing in effective environmental policy will help them remain global environmental leaders.

### *Diseases*

The aviation industry is an industry that is very sensitive to crises and disease. Airline companies would be facing loss due to the fact that diseases lower the demand for air travel, and the routes to some destinations would be rejected. Idle aircraft in the airport will increase airport services charges (landing fees, lighting, parking, passengers' service, and fueling) maintenance services and labor costs.

In 2003, the SARS pandemic broke out, starting in Hong Kong, then spreading throughout Asia and all around the world. Many countries have banned people from traveling to other countries to limit the spread of disease. The number of passengers this year has not increased compared to the previous year, particularly in the Chinese market, where a massive amount of air transportation is operated daily.

## **4.2.2 Competition Intensity of Chinese Aviation Industry**

### 4.2.2.1 Threat of new entrants - Low

The threat of new entrants in the aircraft manufacturing industry is low because of the remarkably huge initial costs, especially at the airplane bodies and turbine producer, since they demand huge investments whose return necessitates many years. Hence, companies strongly require government financial assistance, such as subsidies or military contracts, to enter this industry. For example, Europe provided approximately \$10 billion in government funding to AB before becoming a consolidated player. Speaking of potential local entrants, the Chinese aviation industry's real start is relatively late, and it is more than fifty years behind the advanced international level. Even though China has caught up, it still cannot get rid of the backward situation.

### 4.2.2.2 Threat of substitutes - High

In China, there are four main ways of long-distance travel: airplanes, ships, trains and cars. Because only one land of the country faces the sea, travelling by steam is relatively rare for Chinese citizens, but trains and cars are strong competitors for airplane alternatives. At the end of 2018, Chinese national railway operating mileage reached 131,000 kilometers, of which high-speed railway operating mileage reached 29,000 kilometers. A total of 6,800 kilometers of new railway lines were put into operation throughout 2019, including 3,200 kilometers of high-speed rail. The number of railway passengers nationwide is 3.37 billion in 2018. With its fast speed,

high-speed rail, large capacity, low pollution, and high safety, it has become an indispensable mode of travel for Chinese residents on business trips and travel.

According to statistics from the Ministry of Public Security, in 2019, 32.14 million motor vehicles were newly registered nationwide, with 348 million motor vehicles in total, of which 25.78 million were newly registered vehicles, with 260 million motor vehicles and 435 million motor vehicle drivers, including 397 million car drivers. Individual car purchases passed 200 million for the first time. At the end of 2019, there were 220 million small passenger cars, an increase of 19.26 million, which increases by 9.37% compared with the end of 2018. The number of new energy vehicles in the country reached 3.81 million, accounting for 1.46% of the total number of vehicles, compared with the end of 2018, an increase of 1.2 million, an increase of 46.05%. Amongst them, the number of purely electric transports was 3.1 million, accounting for 81.19% of the total number of new energy vehicles. The increase of new energy vehicles has exceeded one million for two straight years, showing an accelerated extension trend. Therefore, all the figures above have shown a huge challenge for civil aviation transportation.

#### 4.2.2.3 Bargaining power of buyers - High

The main customers of civil aircraft are operators and leasing-aircraft firms. In China, if any of the above companies plan to purchase a civil airliner, they must be approved by the Civil Aviation Administration and the National Development and Reform Commission. Aircraft is an unusual commodity, and the number of requests and the selection of aircraft models or families often reflect a specific political significance. Therefore, the National Development and Reform Commission often considers various global factors and effects when confirming the purchase programs. For example, in March 2014, during the visit of President Xi Jinping to France, China confirmed a series of orders previously suspended due to the EU's forcing worldwide airlines to join its carbon emission mechanism. In the same year, the Chinese government has also signed a new ten-year agreement to allow the extension of the AB' A320 aircraft assembly project in China to 2025. In October, during Premier Li Keqiang's visit to Germany, AB acknowledged a memorandum of plan with the Tianjin Free Trade Zone and AVIC on the establishment of an AB A330 completion and delivery center in Tianjin. In June 2015, Premier Li Keqiang signed the purchase of 75

AB A330 passenger aircraft on the first day of his visit to France, with the total US \$ 18 billion value. It is not difficult to see that some technical cooperation often accompanies the purchase of AB aircraft by the Chinese government. Therefore, the buyer's purchasing power has to be at a certain extent hindered AB civilian aircraft's development benefit.

#### 4.2.2.4 Bargaining power of suppliers - Low

During Tianjin Airport Economic Zone's construction, China had introduced more than 50 aviation projects, including 5 companies in the list of Fortune global 500 companies, 15 well-known leading companies, and more than 20 major projects being actively promoted. The successful operation of the AB Tianjin assembly line has caused a large number of domestic and foreign suppliers to throw olive branches at it, including Goodrich, a world-renowned aviation component manufacturer (Song, 2014). Thales, one of the world's largest airport radar manufacturers and world-renowned aviation coatings. The aviation city has also attracted the establishment of well-known domestic aviation firms. For example, AVIC Xifei set up a wing production plant next to the AB Tianjin Assembly Plant to produce and assemble the required AB's wings directly. AB signed an agreement with China Zhejiang Xizi Aviation Fastener Co., Ltd. to be its first-tier supplier during 2016-2020, and Tianjin Xizi United will take a large part Production tasks (Qian & Fu, 2015). Even in general, suppliers' bargaining power in this industry is relatively low due to numerous aircraft manufacturers' choices. The increasing purchase amount of aircraft in China gradually depends on local Chinese suppliers, making the supplier's bargaining power increased to a certain degree.

#### 4.2.2.5 Competition among existing competitors - Medium

Nowadays, the world's civil aviation manufacturing industry is in a duopoly competition between AB and Boeing. Boeing has a history of approximately 100 years of operation and has powerful military technology research and development capabilities. This substantial technical resource has successfully executed a wide range of civil aircraft of different capacities and purposes. On the other side, AB was established comparably late but gradually overtook the Boeing position in just a few decades. This is due to their competition in all aspects, resulting in consecutive innovative plans (Liu, 2013). China's state-owned airplane manufacturer, COMAC



(Commercial Aircraft Corporation of China), has big aspirations to become a global aviation industry player. Boeing and AB have both been fighting heavily in the steadily profitable and growing Chinese commercial aviation market. Some estimates predict that the Chinese market will need 7,400 new planes to keep up with demand in the next two decades. However, COMAC aspires to compete adjacent with the two competitors.

Overall, the macro environment related to the aircraft manufacturing industry supports the industry's growth due to many factors, typically, because the aircraft's demand is increasing fast due to the demand of transportation worldwide. As shown on the PESTLE and Porter's 5 forces, when focusing on the industry itself, it becomes clearer that AB owns a massive piece of the cake. Nonetheless, the competition is raging, and the threat of substitute is the most significant as stressing it thanks to the five forces.

## **4.3 Readiness of AB**

### **4.3.1 SWOT**

#### **4.3.1.1 Strengths**

Despite the challenge in the year 2020, which includes the reduction in the profit, AB internal and external environment still exhibits many strengths that could be potential for its dominance in the Chinese market. First, the company still has financial power. The first-quarter report is out for both AB and its closest rival, Boeing. Despite the evident losses in the year 2020, the company's economic strength is still apparent. Its first-quarter revenue is 10.632 million dollars (Gavrilova & Gyazova, 2020). There is a drop of 2 million dollars when the income is compared to the first quarter of 2019. AB and Chinese cooperation will hit \$1 billion in the Chinese market by the end of 2020 from \$500 in the year 2015. The company share value reduces by about 2.1 euros, but it was due to the challenge that came in the year 2020. Therefore, it is still evident that its financial power is its motivation and strength in the market. Disregarding the lack of financial management ability, AB still has considerable support from the EU government, leading the financial power.

Secondly, technology remains a critical point to the AB and a significant competitive advantage the company possesses in 2020 in China Market. AB has a plethora of innovation in the industry. In the year 2020 and beyond, the aim is to innovate commercial aircraft that are autonomous with limited or free from pollutant gases. The objective is to introduce environmentally friendly commercial airplanes that are free from pollution. The company is currently testing Mavaric, CityAB, and VSR700 (Jopp & Spoerer, 2020). In China, the company has the AB China Innovation Center. In this central place, the company enhances the incubation of ideas to make unique innovations to propel its product in the Chinese market. Therefore, with power in technology, the company has the potential to dominate the market.

AB still shows flexibility with its diverse portfolio in the commercial industry by adjusting to the different changes and engineering planes that suit different conditions. For many years, a diversified portfolio has been the strength of this company. AB has airspace technology that has landed on the planet Mars. Further, it still has several military planes, space technologies, cargo, and also passenger planes. The company demonstrated such flexibility in the year 2020 by majoring in smaller aircraft due to rising demand. In the China market, the company has majored in both planes and has also shifted its attention to smaller plans that are currently demanded in the China market (Baumann, Becker & Horrmann, 2020). For most of the year 2020, the company demonstrated such flexibility by majoring in smaller aircraft due to rising demand. Therefore, such a diverse portfolio is a symbol of readiness to maintain the lead in the industry. According to AB, China is the market that is likely to demand 7400 planes commercial planes that come in different shapes and sizes. Therefore, the company is diversifying its portfolio to meet the demand from the Chinese market.

Another strength is the company's leading position in both the Chinese and the global market. AB still is the best, with a market share of about 62% following the decline of its closest rival, Boeing (Drop, 2020). AB has taken over in the worldwide market, making more than 898 orders overcoming the Boeing in ten years. In China alone, the company has made more than 50 orders in the commercial industry in the last two decades. With the prospect that China Aviation sectors are likely to triple in the next years, the company is an excellent position to be the market leader and dominate the world aviation industry. Lastly, the brand name and customer loyalty are

still with the AB in 2020 (Drop, 2020). The company has gain fortune following the misfortune of its rival Boeing. Therefore, the customers had a high rating, evident with the number of orders it has received in the year late 2019 and early 2020. Thus, the strength rating for this company is reliable.

Throughout history, AB and Boeing have become inborn in defense, industrial expansion, and geopolitical aspects. AB very origin is deeply intergrated in European political factors, as it was built as an example of how European countries and companies are stronger and more powerful when they come mutually together. AB does not have 100 years of history but consists of all those European aerospace businesses that brought with them a fantastic amount of knowledge. Also, AB has had many supports from EU countries as its manufacturing factories are around the EU. As a result, AB has received many financial endowments from EU countries' governments.

#### 4.3.1.2 Weaknesses

Despite the Chinese market's strengths, AB has weaknesses that it must address to remain as the market leader. First, the company has a high attrition rate compared to a Boeing company and other small players in the market. AB currently has an attrition rate of 4.4%. It implies that the customers and employees lost with no replacements are about 4.4% (Drop, 2020). The disadvantage of such an attrition rate is that it has allowed some companies to conquer into its market share. Secondly, the company is weak in the sense that it uses a hierarchical structure, which limits its ability to be flexible and make faster decision making (Drop, 2020). In the year 2020, the AB structure includes the 12 members' board of directors on the top with the second level's chief executive officer. Below them are the chairperson, executive committee, and other department heads (Gavrilova & Gyazova, 2020). The hierarchy structure is inflexible, and this a significant weakness the company has on its internal environment.

Another weakness the company has in 2020 is the lack of proper compliance, which leads to many cases such as bribery, which damages its image. For instance, the company paid about the U.S. \$4 billion penalties to avoid the prosecution facing the alleged endemic corruption. The allegation creates a bad image for AB. The company must work on improving and becoming the market leader (Hepher, 2020). The company is accused of winning tender illegally. Another weakness in the Chinese

market is the high cost of labor. AB boasts of developing a magnificent airplane that is fuel-efficient and lighter than most of its competitors. The technology the company uses is outstanding and sets it apart from other competitors. However, the cost of labor is high.

At its AB China Innovation Center, the aim is to hire top quality talents both locally and internally to develop the best planes. Quality comes with a cost, which is a significant weakness the company has, which it must solve. As the company promotes the innovation culture, many projects and ideas have been tested; however, there is poor quality management from some of its products and project and mismatches with economic benefits, which makes them fail to meet the standard. The company's project in France failed due to a lack of proper decision in project planning, which is directly implied in AB's financial status. Airbus has also been slammed for shoddy engineering and poor production plan, costing the company billions for its failed projects. Therefore, the weaknesses are moderate, and without addressing them, the company competitiveness in the market could only last for a short period.

Another flaw is high taxation in China. China's taxation rate is unfair, and many people, including Donald Trump, have expressed their concern on this matter. As a company that operates in China, AB loses a lot of money through taxation in the country, which serves as significant weaknesses. AB will likely face a big supply chain issue because it relies on a massive network of small companies all around the world. The current pandemic makes them struggle to survive because of governments' stringent regulations and undesired economic situation. A million parts that fly in rigorous and meticulous assembly line that is actually an aircraft, all those parts arrive from all sorts of location universally. Some of trustworthy suppliers that deliver certain small parts, are literally family-owned, they are tiny. They don't have the resources if the situation keeps shaken up like this Covid-19 pandemic.

While Boeing targets airlines' performance, such as saving fuel and reducing maintenance costs to maximize competitive advantage, AB focuses on technical factors, quality, and the number of passengers carried on flights to create a competitive advantage. Hence, the cost of manufacturing from AB is higher than Boeing and along with that is the ineffective management of cash flow which makes AB has received many supports from governments from declaring bankruptcy. From 1970-

2005, AB has received more than \$17 billion dollars from government loans to keep its operating. The lack of efficient cash flow management and obsession with the highest quality of manufactured aircraft makes AB operation less effective.

#### 4.3.1.3 Opportunities

The company has a plethora of opportunities in the Chinese market. First, its primary competitor is facing a tough time with the poor quality of its products. Boeing is the primary rival, which by the year 2018, had a market share of about 42%. However, the company is facing a challenge with its Boeing Max 737, which had experienced technical issues. Therefore, this is an opportunity for AB, and it should take this chance to dominate the market. The first opportunity is the Chinese advancing technology (Baumann, Becker & Horrmann, 2020). AB is currently looking to sign on autonomous planes that are sophisticated and seek to change the market. The company is also planning on the zero-emission planes which look to sustain the environment. China Market provides the best platform for such technological development (Jasmine et al., 2020). For instance, the AB China Innovation Center (ACIC) is the fastest innovating center AB has across many countries in the world. At ACIC, there are hardware laboratories, cabinets experience area, manufacturing mobility, and the center of innovation where the company ensures the utmost quality of the innovation and robust technology that increases the outcome (Jopp & Spoerer, 2020). China, therefore, has superior technology that supports AB, and this is an excellent opportunity. It is part of its comprehensive environmental sustainability planning to reduce emissions and also enhance better ecological conservations. With such plans, the company can better develop with the new and advancing technology that opens ways for innovations.

The expanding aviation market in China is another opportunity the company has in the Chinese commercial airplane market. China aviation is expanding, and the AB expects that by the year 2023, China will be demanding more than 7000 new passenger Airplane (Thomas, 2020). There is an expectation that the flight rate per person is likely to increase from 0.4 to 1.4 (Klecza, Buts & Jegers, 2020). The commercial market is expected to expand by about 2.6% come the year 2050. Also, China AB Corporation is expected to hit over one billion dollars in 2023 (Klecza, Buts & Jegers, 2020). Currently, China's commercial aviation market represents about 19% of the total demand, and this implies that the expansion of the market means a great

opportunity for AB. AB has already prioritized China and has set manufacturing centers in the country, employing local and international engineers. It also has many Chinese pilots and technicians, and the expanding market means that the company can lead the market.

Government regulations are an opportunity for AB. In most countries such as Arabic countries, the government is opening new opportunities and market which favors the company. As a result, AB has opened many new markets in such areas, which are increasing its expansion globally. Though such as laws have shrunk in the last three months due to the COVID-19 pandemic, the economy is reopening, and such chances are inevitable. In the year 2019 to 2020 February, AB gained a lot of opportunities in the Asian market, increasing its share by 2.1% (Baumann, Becker & Horrmann, 2020). The governments in such countries reduce the stringent regulations in place, which promoted the company's development in such areas. The company is taking such chances and is expanding its market in Asia (Klecza, Buts & Jegers, 2020). Currently, it holds more than 40% of the Asian market. With such opportunities still available, the company can grow and dominate the market for many years. AB also has a chance because it has achieved global leadership in the year 2020. Global leadership comes with many occasions, such as customer loyalty and increasing demand for the company's products. With such leadership, the customer trusts increase, and this increases their commitment. Also, the need for a company rises because of global leadership. Therefore, global leadership is a considerable factor in defining AB' competitiveness in the year 2020 and beyond.

Another opportunity the company has is the market leadership in China and the world. AB also has a chance because it has achieved global leadership in the year 2020. Global leadership comes with many occasions, such as customer loyalty and increasing demand for its products. To get to a position where the company leads in the market, it must utilize all chance and it must be financial strength to overcome challenges in the market (de Oliveira Dias & Lopes, 2019). With such leadership, the customer trusts increase, and this increases their commitment. Also, the need for a company rises because of global leadership. Therefore, global leadership is an essential factor in defining AB' competitiveness in the year 2020 and beyond.

Another opportunity is the growing dispute between the U.S and China over various trade terms and tariffs. Meaning, China could prefer more AB planes instead of Boeing. China has had a tariff battle with the U.S, and the current accusation by the U.S president about China could shift the Chinese demand to AB planes (Archibugi, 2020). The U.S government has continuously accused China of overtaxing its Airplane. Such accusations could be disastrous to a company such as Boeing struggling to create a better China market. However, such could be a blessing to AB as more Chinese could demand AB planes instead of the Boeing. Other opportunity is cheap labor in China, which is less expensive than those from European countries. Therefore, it could serve as an opportunity and advantage to the AB to expand its operation in the country.

The last opportunity the company has is new taxation policies in most countries in the world. The year 2020 is unique for many businesses. For instance, the year saw a decrease in taxation, with many governments giving citizens and companies a reduction in taxation rate (Klecza, Buts & Jegers, 2020). The pressure was on the government to ease the economy on the citizens due to many challenges that came due to the governmental factors and healthcare restrictions to reduce the spread of the Covid-19. Therefore, such regulations play well for the company, such as AB, that pays massive taxes. With the reduction in Taxes, the company can take such an opportunity for the developments.

#### 4.3.1.4 Threats

Competition remains to be a threat to AB in the China commercial aviation market. Boeing companies are still active competitors in the Chinese commercial aviation market despite their small market share in the country. A company such as Boeing has the financial strength, and this is a significant threat to AB. The first threat is competition by the Boeing. Before the Boeing's Max 737 crashes, Boeing was a competitive organization. However, the company remains a threat because it of the market share it holds in the market. Also, the company has the financial strength, and this is a significant threat to AB. Boeing is also a good and well-known brand in the market with a good reputation except for the 2019 and 2020, where the company's new Max 737 failed due to poor mechanics and technical issues leading to crashes (Jasmine

et al., 2020). When Boeing still holding the second-place position in the market, AB cannot rest.

Another threat is that China is taking advantages and copying the AB Company's know-how and could use such innovative intelligence to their advantage. At the AB China Innovation Center (ACIC), the company insists that its top priorities are the local engineers in China. Therefore, the company has hired many engineers from China. Through a good culture of diversity, such kindness may work against the AB some days (Akbar & Kisilowski, 2020). For instance, China is planning to initiate its domestic assemblies and also creating their models of planes. They may lure or entice the Chinese engineers from AB and even steal AB patterns and designs and use them to reduce their influence in the country.

Also, China is working on different projects to launch its home-made planes. The planes are underway, and the Chinese government may force its top aviation consumers to buy the home-made Airplanes (Baumann, Becker & Horrmann, 2020). They are the threats that AB faces that could reduce its operations in the China commercial market. With such a level of competition, AB must be vigilant in the market to survive.

Another threat is the political turmoil in the world. The tension between the U.S and other Arab countries is threats to the AB' growth in 2020 and beyond. The tension between America and countries such as Afghanistan, Syria, and Iran all directly impact the company's market development (Kleccka, Buts & Jegers, 2020). Also, a Brexit is another threat the company is facing in 2020. Therefore, these area threats it has to face and deal with to remain competitive. Other than that, the Covid-19 second wave is a massive threat in 2020. There is a science that Covid-19 could resurface, and its second could be worse than the first, which has already stiffened the economy. With such news possibilities, AB could see more production centers closed and more passenger planes grounded.

The last threat is terrorism, cybersecurity, and the general safety of the passengers and the planes. The September eleventh attack is a day having never erased in people's minds. Such instances are a threat to the safety of the passengers and the organization as a whole. There is a new trend in the cybersecurity where cyber-terrorists take hostage of the company's data and demand a lot of money to exchange



such data. With the company advancing in technology and overlying on technology, such cases remain a threat to its operations (Yu, Ye & Yao, 2020). Cybersecurity is one of the most significant threats companies such as AB face in the current world. Therefore, the company still has substantial risks to its services that may halt its development into a market leader.

The SWOT emphasizes the strengths that AB must use in order to make the most of the opportunities and, at the same time, minimize the probability that the threats happened. Additionally, the matrix shows that if AB wants to keep up and then surpass their opponents, they will have to: first, absorb the weaknesses that prevent them from embracing the opportunities and, secondly, get rid of the weaknesses that could make the threats real.

### **4.3.2 VRIO analysis: AB' Position 2020**

#### **4.3.2.1 Valuable**

First, AB' financial strength in China's commercial aviation market is a valuable resource because it gives them an edge in acquiring better technology and hiring qualified engineers. Due to financial strength, the company has acquired a new plant in China, which is a competitive advantage (Dai, Guo & Luo, 2019). The market in China demands that the company have the capital to sponsor several deals and institute its operations. Therefore, financial strength is valuable to AB. It enables the company to acquire some of the top services, which could be difficult for the competitors with less financial power.

AB employees in China are valuable resources for the company. Employees contribute to the company's success and, thus, useful to its progress. AB trains its employees and creates for them the opportunity for the development. Training in this company aims to improve employees' technical skills and innovative ability to improve their creativity, which is valuable to the organizations (Dai, Guo & Luo, 2019). Also, the employees are the AB image, and thus, they carry the most significant value to the company. They are mirror the company's values, mission, and vision. The employees are also valuable because they work on every product and services the company has and thus carry the knowledge that drives forward the company in its

business. The employees are excellently trained and have unique expertise that can only be explained by the nature of the company's innovation in the market.

In the aviation industry, mostly the commercial sector in China, technology, and innovation are critical competitive areas. Companies must possess sophisticated technology to be able to match the competition. For AB, technology is a valuable resource because it has one of the best technologies that allows the company to create fuel-efficient and light airplanes that are mostly preferred in the industry. (Dai, Guo & Luo, 2019). Technology sets the company apart because of the model of the aircraft they make from their technology. Thus, technology stands as one of the most valuable resources the company has, which gives it an edge over its competitors.

**Brand name and Market Leadership:** The brand name the company has and its leadership in the market are other valuable resources that are giving the AB advantage in this market. They make the customers think highly about this company and value it above its competitors (Zhu et al., 2020). Also, when Boeing 737 was grounded because of scandal, China deals with AB for an order of 300 commercial planes could also serve as a valuable resource because it increases its rating from the customers' point of view (Kumar, 2019). These areas or resources are valuable to the AB because they differentiate the company's operations from its competitors and emphasize that AB's products are superior to competitors. Furthermore, they add value to the company's image and products in the market, thus acting as a competitive advantage in the market.

**Research and development:** The company's development and research are valuable because AB is committed to being a highly innovated organization that adds highly competitive advantages to its productions. It invests annually more than €3.5 billion on research and development ideas and keeps its position as a market leader. More than 1000 scientists and researchers at all facilities making sure innovation is integrated from early step of researching to other end of manufacturing process and quality. In spite of AB's cost of operation is high, its investment in innovation brings the company a high advantage comparing to its rivals. Because of reaching the same level of innovation, it is not purely the amount of money investing in, but because the culture is deeply rooted with an innovation mindset from every aspect of the company that creates a highly innovative organization. And it has been proved that AB has been doing

it for decades, it makes other companies are hard to compete with AB. The research development at its China AB center is also valuable because it has remained unique in the market through research and development. It is due to research and development that has propelled the company in the market. Most of its unique products, such as cost-efficient airplanes, are invented and innovated due to its unique research and development. AB penetration in the global market, such as China, could also be attributed to the research and development departments. Therefore, research and development could be an expensive area that the company utilizes to remain unique and enhance its growth.

#### 4.3.2.2 Rare

Financial power is a rare resource that AB possesses in the China market. The commercial aviation industry has many players. However, economic power defines competitiveness. In this industry, it is all about innovation and developments which demand massive investments in the capital. Therefore, most competitors do not possess much money to control the market, making finance rare (Dai, Guo & Luo, 2019).

The highly innovative and skilled employees that AB possess are also rare resources giving the company advantage. Quality begins with the best training and the ability to capture the best employees' signature in the market. AB is attracting the best engineers in China to develop its commercial products. Also, the company's level of skills and training exposes its employees to give them the unique power of innovation. Through training, employees also get the motivation they need, which increases productivity in the company (Zhu et al., 2020). In this market, only big companies such as AB, with financial strength, can train the employees to that level. Also, only dominant players in the China market, such as AB, can acquire the signature of some of the top talents in the market. As a result, the company's employees are rare resources the company uses to control the market through innovation and better management.

Technology is an example of a resource that AB possess which is rare. Technology defines the quality of production. For AB, its sophisticated technology allows it to come up with a much lighter and fuel-efficient aero plane that is more attractive. Attaining such level of technology is not easy for small companies. It

needs massive finance that a small company cannot afford (Zhu et al., 2020). Therefore, technology becomes a rare resource for this company because it is difficult for other companies to acquire such level of technology to match their competitive power.

Brand name and market leadership are other rare resources the company has that give it a competitive advantage in the China Commercial market (Amankwah-Amoah, 2020). The brand name is rare because it is difficult for any company to create a brand name for the company that hooks its loyalty like that of the AB (Mazaud, 2020). For AB, its brand name has given it the market leader, and these are rare resources that other companies may struggle for years before acquiring in the market. Before the pandemic, Boeing was already struggling to get administrative approval to bring its 737 Max to the skies. As the aircraft family was grounded after two fatal accidents associated to a faulty flight control system. In another setback, Boeing recently abandoned its 4.2 billion dollars bid to acquire Brazilian aircraft manufacturer, Embraer, which was expected to reconstruct the aviation industry and now AB had already overtaken Boeing as the world's top plane maker in terms of deliveries (Rochabrun et al., 2020). AB has proven its brand name and market leadership matter by acquiring a deal with China to supply 300 jets (Kumar, 2019). As a result, this is also a rare resource because not many companies in this industry can win such tenders.

According to Wu et al. (2020), research and development is an area that sets a business apart. Most of the top innovative companies always have unique research and development centers that are rare in the industry. Therefore, AB is an example of a company whose research and development department has done an excellent job and is limited in the industry. The company research and development in China is based in its China Innovative Center. In this area, the company values its research and deploy resources to incubate ideas that lead to its development. Therefore, research and development are rare for the company because it could be difficult for other companies to accumulate such extensive research and development centers to match AB in this area.

#### 4.3.2.3 Imitable

It is difficult to copy AB's financial resource because these are resources that the company has taken years of development to acquire. Therefore, the new entrance in China market must undergo almost a similar profit-making process until

they reach a point where they accumulate an extraordinary amount to challenge AB. Therefore, AB' financial resource is imitable (Amankwah-Amoah, 2020).

Regarding imitability, employees stand as a weak point to this company because other competitors can also develop their employees to research a level where AB has done to its employees. The employees as resources are not costly to train and thus can be copied. Other companies can enroll their employees in different programs to train them in the same style that AB has done. According to Mazaud (2020), employee training is one of the best ways to develop and increase their creativity. Through developing employees, it easy to take advantage of the market because employees have the technical capacity to deliver. Therefore, it means that employees are valuable but are easy to copy or imitate by other companies in the market. Thus, they are a symbol of a disadvantage to the company's competitiveness in the market.

AB is vulnerable regarding the innovation and technology it uses for its airplane because its close rivals can imitate them. Techniques are available in the market. Therefore, they can be accessed by a company such as Boeing that has financial strength (Mazaud, 2020). Also, New entrance in the market that have economic power can be able to imitate such technology. Innovation n need proper training which other companies can even imitate.

The brand name and market leadership in the market are not easily imitable because it takes numerous struggle and strategies, and the financial power to attain a state where the brand name has potential in the market. For instance, in this industry, it may take a smaller company decade before developing to appoint where the AB is or has reached. Therefore, AB' brand name and leadership in the market offer substantial competitive advantages because they are not easy for other companies to achieve such status.

**Research and Development:** Regarding the level of research and development, these are areas that can be considered as the strengths of the AB because they hardly can be copied by its main rivals, such as Boeing. Research and development are petulant areas of company development. Acquiring tenders with China and transferring part of the company's operations in China making it increases the tendencies to be imitated by companies with financial strength or state-owned like COMAC. Hence, they dictate the level of innovation and the number of the new model

plane the company has in a year (Zhu, Zhang & Zhao 2019). Winning bid means being in a position to challenge for the top spot by differentiating products both through cost and descriptions. These are areas where other companies hardly can succeed, as delivery quality at a reasonable price requiring a significant level of innovation. For many companies, developing the right research center that allows for proper resource utilization, for research and improving most of the company's operations demands a lot of flexibility, high skills, better culture, and better resources. Therefore, AB has strived to develop one of the best researches and development approaches in the industry. It is a resource that makes them unique because it may not be easy for other companies to develop a similar research and development strategy due to the extensive resources needed, the culture, and the flexibility that comes with such a demand.

#### 4.3.2.4 Organization

AB has a strong financial organization and planning, which allow the company to invest in the right places in the market. Investing in China's innovation centers is an excellent example of the right investment and the beneficial use of finance in organizations (Yang & O'Connell, 2020). With the rightful investment yet of finance, the company makes a wise decision, which leads to competitive advantages. Therefore, the company has valuable, imitable, and also organized financial resources that it uses to meet its needs and remain competitive in the market.

Also, the employees' organization within the company is excellent. AB has a well-trained workforce coordinated in a manner that brings the best out of them. The company has a diverse workforce and trains them every specific period to ensure that they understand their crucial organization's crucial objective. The company's success is partly due to its coordination of the employees, which gives them an edge in the market. The company's history is rooted in its teamwork for all the employees (Gavrilova & Gyazova, 2020). It has both virtual teams and those teams coordinating within the premises. It believes in developing employees, allowing it to train the employees and organize them for their benefits.

Technology: Regarding the organization of the company's technology, AB is organized and has the right plane to utilize its technology to innovate most of its ideas about commercial airplanes. The company organizes its innovation and incubation centers, where it uses high tech to innovate most of its aircraft. An excellent

example of such an organization of technology is the AB China Innovation Center, where it collects most of its comprehensive technology, brings them together, trains employees to make use of these techniques to get the best for the company.

**Brand Name and Market Leadership:** the company's most valuable resource is its brand name and leadership in the market. Regarding its organization, AB organizes its activities around its brand name and make use of its leadership position in the market to ensure that such businesses are thriving. For instance, activities product marketing should be organized around the brand name to provide access to new markets, help in retaining existing customers and attracting new potential customers worldwide.

**Research and development:** the primary company resource, which adds value to its operations is its research and development centers. The company organizes research and development in the best manner possible to give it maximum benefits and advantages in the market. For instance, the company finance research and development in China and ensure that resource are available to support research and development. Also, the company hire the best employees and train them, to ensure they enhance research and development. Therefore, company performance in this sector is exceptional, and attaining this goal was made possible through research and development. AB distribution in China follows the philosophy of delivering only on order. The company's rate of innovating new plans and allowing them in the market follow laws that enhance proper coordination. Even though most of such operations are done in China, the rate of coordination is perfect in the company (Dai, Guo & Luo, 2019).

Features / Resources	Value (is it valuable?)	Rarity (is it rare?)	Imitability (is it hard to imitate?)	Organization (are we organized)	What is the result?
Financial Strength	YES	YES	YES	YES	Sustainable Competitive Advantages
Skilled Employees	YES	YES	NO	YES	Temporary competitive advantage
Technology	YES	YES	NO	YES	Temporary competitive advantage
Brand Name and Market Leadership	YES	YES	YES	YES	Sustainable Competitive Advantages
Research & Development	YES	YES	YES	YES	Sustainable Competitive Advantage

**Figure 4.3 VRIO framework**

As a result, the company is competitive in the China market. First, most of its resources add value to its final products. Also, a good percentage of these resources are imitable and rare. Meaning, these resources would be not easy to be copied by other rivals. The company has the right to take advantage of the market because of the privileges of owning such resources. The company can manipulate the market using this resource to serve its interest, and this gives it an edge over others. The coordination is also good, giving the company a significant competitive advantage in the market.



## 4.4 Strategies' Design

### 4.4.1 IE Matrix- TOWS Matrix

#### 4.4.1.1 IFE Matrix

The IFE Matrix assesses and calculates those principal strengths and weaknesses in the functional areas of a firm such as marketing, finance, operation, R&D and so on. Moreover, The IFE Matrix also proposes a framework for classifying and judging relationships among those areas. Intuitive judgments are required in assembling an IFE Matrix. Overall, AB has a 2.86 total weighted score, which symbolizes it is considerably competitive in terms of its functional operation.

**Table 4.9 IFE Matrix**

	Strengths	Weight	Rating	Weighted Score
1	Strong financial power of the company	0.15	4	0.60
2	Technology used in commercial aircraft	0.12	4	0.48
3	Well diversified products' portfolio- aerospace, defense and commercial aircraft	0.1	4	0.40
4	Leading position in global market	0.05	4	0.20
5	Well recognized brand name	0.04	4	0.16
6	High customer loyalty	0.05	4	0.20
7	EU governments supports	0.06	4	0.24

	Weaknesses	Weight	Rating	Weighted Score
1	High attrition rate compared to rivals	0.06	2	0.12
2	Hierarchical structure makes decision making less effective	0.10	1	0.10
3	Lack of proper compliance	0.05	2	0.10
4	High cost of specific skilled labor	0.05	2	0.10
5	High taxation is applied in China market	0.03	2	0.06
6	Rely on outsourcing globally leading to supply chain issue	0.06	1	0.06
7	High cost of manufacturing because of focusing on quality of aircraft	0.08	1	0.08
	<b>Total IFE Score</b>	<b>0.99</b>		<b>2.90</b>

#### 4.4.1.2 EFE Matrix

An EFE Matrix allows strategic planners to evaluate and measure external influence factors in terms of political, governmental, legal, cultural, demographic, economic, social, environmental, technological, and competitive erudition. Table below shows the External Factor Evaluation Matrix for AB. Overall, AB receives a 3.40 total weighted score, which means it is functioning very well with utilizing advantage through the external opportunities and bypassing the challenging from industry and competitors.

**Table 4.10 EFE Matrix**

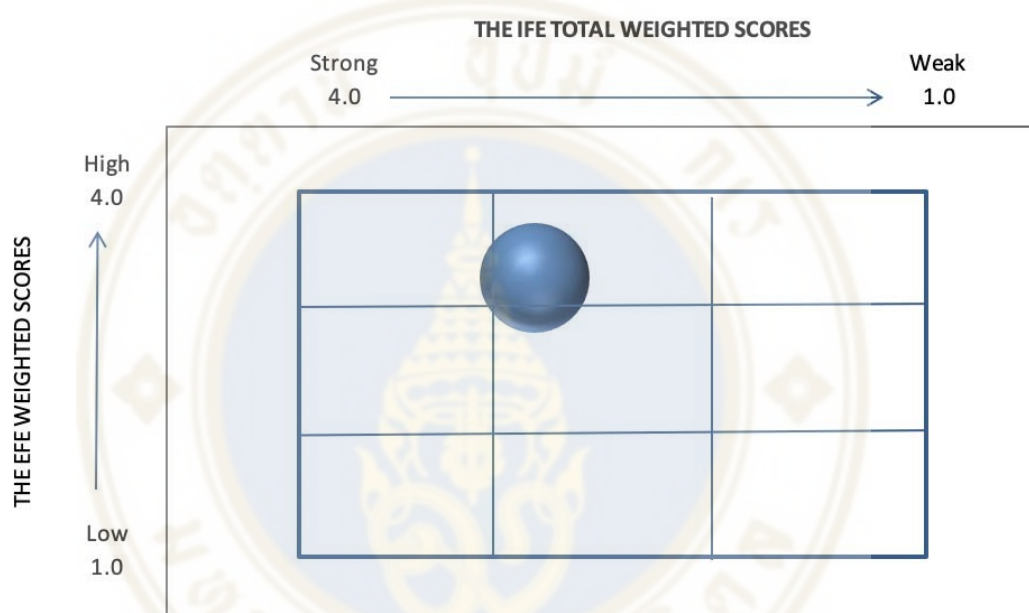
Opportunities		Weight	Rating	Weighted Score
1	Chinese advancing technology	0.10	4	0.40
2	Expanding aviation market in China	0.08	4	0.30
3	Market leadership in world market	0.11	3	0.33
4	The growing dispute between the US and China	0.12	4	0.48
5	Less expensive labor cost than EU countries	0.07	3	0.21
6	Government reduce stringent regulations to gain more market share	0.05	3	0.15
7	New taxation policies	0.10	3	0.30

Threats		Weight	Rating	Weighted Score
1	High rivalry competition from Boeing	0.12	4	0.48
2	Threats from Chinese manufacturer intending to steal know-how and technology	0.10	3	0.30
3	Threats of Chinese government impacts on domestic customers	0.05	2	0.10
4	Political turmoil in the world	0.05	3	0.15
5	Terrorism and cybersecurity attacks	0.05	4	0.20
<b>Total EFE Score</b>		<b>1.00</b>		<b>3.40</b>

#### 4.4.1.3 IE Matrix

The IE Matrix exposed that AB has high potential to attract more customers, expand the market. AB can develop and strengthen the strategies which means intensive and tactically dynamic in strategies' developing.

The strategies are suggested to focus on expansion such as market penetration, market development, and product development. From the operational outlook, a backward integration, forward integration, and horizontal integration should also be considered.



**Figure 4.4 IE Matrix**

#### 4.4.1.4 TOWS Matrix

TOWS is derived tools advancing from SWOT analysis, it is practiced developing strategies due to the internal and external factors of the organization by combining Strengths- Opportunities, Weaknesses- Threats, Strengths- Threats and Weaknesses- Opportunities to form new set of strategies which specifically utilizes for the company itself.

Table 4.11 TOWS Matrix

	<b>Strengths</b>	<b>Weaknesses</b>
	<ol style="list-style-type: none"> <li>1. Strong financial power of the company</li> <li>2. Technology used in commercial aircraft</li> <li>3. Well diversified products' portfolio- aerospace, defense and commercial aircraft</li> <li>4. Leading position in global market</li> <li>5. Well recognized brand name</li> <li>6. High customer loyalty</li> <li>7. EU governments supports</li> </ol>	<ol style="list-style-type: none"> <li>1. High attrition rate compared to rivals</li> <li>2. High cost of manufacturing because of focusing on quality of aircraft</li> <li>3. Hierarchical structure makes decision making less effective</li> <li>4. Lack of proper compliance</li> <li>5. High cost of specific skilled labor</li> <li>6. High taxation is applied in China market</li> <li>7. Rely on outsourcing globally leading to supply chain issue</li> </ol>
<b>Opportunities</b>	<b>SO Strategies</b>	<b>WO Strategies</b>
<ol style="list-style-type: none"> <li>1. Chinese advancing technology</li> <li>2. Expanding aviation market in China</li> <li>3. Market leadership in world market</li> <li>4. The growing dispute between the US and China</li> <li>5. Less expensive labor cost than EU countries</li> <li>6. Government reduce stringent regulations to gain more market share</li> <li>7. New taxation policies</li> </ol>	<ul style="list-style-type: none"> <li>• Strengthen existed customer relationship (S4, S5, S6, O2, O4)</li> <li>• Leasing aircraft (S1, S6, O3, O4, O2)</li> </ul>	<ul style="list-style-type: none"> <li>• Open AB factories (W5, O5, O7)</li> <li>• Develop new aircraft family (W2, W7, O2, O4)</li> </ul>
<b>Threats</b>	<b>ST Strategies</b>	<b>WT Strategies</b>
<ol style="list-style-type: none"> <li>1. High rivalry competition from Boeing</li> <li>2. Threats from Chinese manufacturer intending to steal know-how and technology</li> <li>3. Threats of Chinese government impacts on domestic customers</li> <li>4. Political turmoil in the world</li> <li>5. Terrorism and cybersecurity attacks</li> </ol>	<ul style="list-style-type: none"> <li>• Acquisition with competitors (S2, T2, T1)</li> </ul>	<ul style="list-style-type: none"> <li>• Grow through acquisition with Chinese firms (W6, W7, T1)</li> <li>• Move the company to another country. (W6, T2)</li> </ul>

#### 4.4.2 Grand Strategy Matrix

Base on analyses, the passenger growth rate will continue grow in long-term as the Chinese population increases and the growth of disposable income of China. Also, it is predicted that China market will become the largest market in term of passenger numbers for air transportation, especially for international long-haul flights. Secondly, the competitive position of AB within Chinese market can be perceived stronger recent years due to the increasing of the market share and strong financial performance.

Consequently, suggesting from the Grand Strategy Matrix for AB is in the Quadrant 1 which comprises of Product and Market Development, Market Penetration, Back- Forward Integration and Diversification.



**Figure 4.5 Grand Strategy Matrix**

Overall, PESTLE analysis indicated that external factors ordinarily have a positive effect on the industry now; moreover, the competitiveness of the company is generally medium, which generally brings competitive advantages in some aspects for the AB to grow in the coming years.

IE Matrix and VRIO framework also exposed the readiness of AB in Chinese market. As a result, the company is competitive in the China market. First, most of its resources add value to its finale products. Also, a good percentage of these

resources are imitable and rare. Meaning, these resources would be not easy to be copied by other rivals. The company has the right to take advantage of the market because of the privileges of owning such resources. The company can manipulate the market using this resource to serve its interest, and this gives it an edge over others. The coordination is also good, giving the company a significant competitive advantage in the market.

Combing with TOWS strategies analysis, those possible strategies are:

- Strengthen existed customer relationship (Forward Integration)
- Leasing Aircraft (Product Diversification)
- Open Factories (Backward Integration)
- M&A with competitors (Market Development)
- Develop new Aircraft family (Product Development)



## **CHAPTER V**

### **CONCLUSIONS AND RECOMMENDATIONS**

This chapter presents conclusions and recommendations from this study. The purpose of this study is to explore factors that affects the company through the market analysis of Chinese market, to see the potential competitive advantages of AB, and to provide sufficient recommendations based on the company's competitive advantages.

#### **5.1 Strategy Decision**

Taking a close look of AB situation, market situation (due to pandemic) and the problem statement, AB aims for strategy which can strengthen its position and sustain the business in Chinese market.

- Backward Integration is excluded as it is too costly and might damage the relationship with Chinese government as it will cancel the contract with outsourcing factories in China.
- M&A is not preferred also as AB and Boeing are two giants now, there is no way that Boeing will merge with AB; for Chinese state-owned firms such as COMAC, it is too risky as the technology might be lost to Chinese firms.
- For Product Development is not considered also as A320 is still an unreplaceable aircraft, due to the pandemic situation, domestic flights will recover first leading to a huge demand for A320 family aircraft. Moreover, A330 can take care of long-haul flights at the same time bringing economic benefit as it has sufficient and high innovative engines; which makes the demand for 4 engines or bigger aircraft becomes redundant as costing more fuel to operate and lack of

effectiveness. Furthermore, it will take more than 4 years for international flights to recover at the same stage as the pre-pandemic. There is no reason to develop a new aircraft family now.

- **Product Diversification-** Leasing can be a great option for AB, as the trend of low-cost airlines. Those airlines will find leasing aircraft companies to minimize the huge cost of investing in new aircraft. If capturing the opportunity, AB can control the market well as leasing can help them gain more profit from maintaining aircraft. However, if carefully considering it, leasing aircraft from AB perspective is nothing more than selling aircraft with a high risk of management, high Asset Receivable ratio and high risk of not comprehensively collecting the investment. The reason is some airlines would turn back the aircraft before the break-even point, aircraft will be continuously depreciated if not operate.

Therefore, strengthening existing customer relationships is the most optimal AB strategy in the Chinese market, which is executed through the functional level strategy below.

## **5.2 Conclusions and Recommendations**

### **5.2.1 Collaboration**

If AB wants to maintain its leading position in Chinese market, it must ensure the best quality while reducing costs and prices. AB can extend to strengthen its procurement efforts in China. On the one hand, it can build up such an excellent cooperative relationship among regional Chinese suppliers, while in the same time saving the shipping and tariff costs incurred due to imports for enterprises and reducing the potential risks in the process. Since the Tianjin assembly line was settled, a large number of supporting enterprises have established subsidiaries in the surrounding areas to provide services. However, this is just the tip of the iceberg for aviation manufacturing. Due to the lack of corresponding supporting supplies, many of AB'



production needs still depend on imports, which has brought considerable cost pressure on enterprises. Therefore, AB should actively cooperate with supporting companies to improve excellence affiliated companies into suppliers so that they can give services to AB regionally. Principally for supporting facilities other than large aircraft parts, their value is comparatively low, and the various costs required for import will reduce the efficiency of the enterprise, so localized procurement should be achieved to the greatest extent.

### 5.2.2 Marketing

As far as marketing methods are concerned, AB currently has a single marketing method in the Chinese market, and its marketing efforts are still lacking. It is far from achieving the overall victory of AB in the Chinese market simply by receiving technology. In order to open the US market that Boeing has dominated for a long time, AB pioneered the sales method of "fly first and buy later", which helped American Eastern Airlines get through the difficulties, and subsequently won 23 orders and 25 options. Later, it successively introduced the "buy it like it" sales method, delivering a small number of aircraft first, and signing large orders after the customers are satisfied (Song, 2014). These flexible sales methods helped AB open the door to the US market and achieved great success. At present, China's low-cost airlines are on the rise, and they have unlimited development prospects in the future. AB should firmly seize this opportunity and be flexible in the use of sales methods to create more ways such as "rent first and then buy" or "like to buy" to meet the needs of different airlines.

AB A320 and A330 series products have transitioned from the introduction phase to the growth phase. Airlines have become familiar with the product after the market introduction period, and sales have grown rapidly. At this time, the airlines that have purchased these two series will make a second purchase because of the fleet's expansion. AB relied on these two series of products, and its profits increased in sales. At the same time, as the global sales of AB mainline aircraft have increased significantly, the production scale of AB has further expanded and the economies of scale have gradually appeared, so the costs have been reduced. With the increase in Chinese mainline aircraft's market share, competition from Boeing will become more intense. At this time, if AB wants to maintain the Chinese market's continuous growth,

it needs to increase the marketing costs of its products to compete with Boeing. For the A320 and A330 series in the growth stage, AB should stabilize the current price.

On the other hand, AB can change the focus of publicity on the aircraft. The focus of the A320 and A330 promotion should shift from the introduction of product performance to building the product's image, thereby creating a brand effect and attracting more potential customers. Advertisements should highlight the comfort and user-friendly design of AB products. For example, highlighting the design of aircraft cabins produced by AB can effectively reduce the noise generated by aircraft engines and satisfy passengers during their journey. Or highlight some very humanized designs in the cabin, such as the power interface in the cabin. It can be said that details determine quality. The details are good, this is an improvement on the service quality of airlines. In this way, it will become more attractive to aircraft buyers, enhance the image of AB, and drive more potential buyers to consider buying AB products.

### **5.2.3 Design**

On the one hand, it can improve AB' own product design strategy. Product improvements are mainly reflected in the aircraft's design, improving AB's ability to compete with its rival Boeing in the Chinese market, and meeting the ever-changing needs of the Chinese civil aviation market. According to the analysis of the development of the Chinese aviation market, the mainline aircraft market in China urgently needs to have more passenger capacity, a higher economy, and more suitable for short and medium-haul routes in order to meet the severe development of Chinese aviation market. In the current situation constrained by factors such as congestion and shortage of pilots, the ability to transport more passengers with fewer flights by using more suitable wide-body aircraft with less flight frequency is an effective way to minimize the relative unit cost and quickly increase capacity. Therefore, this requires AB to launch an improved model for the current situation in the Chinese market. The improved product will take up less airspace to carry more passengers. The first thing is that it can effectively reduce congestion and ease the pressure of flight schedules on new routes, thereby making the airport more available. Secondly, reducing the number of flights by increasing the aircraft's capacity also has significant benefits in terms of energy conservation, emission reduction, and fuel cost savings.

#### **5.2.4 Relationship**

AB should participate in China Air Show more frequently. Chinese main air shows are China International Aerospace Exhibition and Beijing International Aviation Exhibition. At the international air show, various aerospace manufacturers showed their best aerospace technology and the most complete products and services they could provide. Most of AB Group's orders are obtained from airshows. Therefore, international airshows can be said to be a battlefield where there is no smoke among aviation manufacturers. AB should make full use of this opportunity to participate in China Air Show to showcase new models and attract Chinese airlines to purchase new products.

AB should continue to send representatives to the China Civil Aviation Development Forum to discuss aviation technology issues with Chinese researchers. On the one hand, it strengthened the communication between AB and Chinese researchers, enabling them to understand the Chinese market's needs in a timely manner. Aviation technical talents have a better understanding of AB technology, and the performance of the aircraft produced has increased the interest of airlines in AB aircraft. After AB' new production line is initially rolled off the production line, or after the production of existing production models reaches a certain number, AB should actively hold the aircraft's first flight ceremony, the new aircraft rollout ceremony, or the commemorative ceremony for order delivery. This is to advertise AB' new technology or market share to potential customers to show that AB's performance is better than other competitors.

#### **5.2.5 Politics**

As analyzed above, AB has tasted the sweetness through its industrial cooperation and technology transfer with China in the past ten years, from nothing to sharing the civil aviation market with Boeing. Therefore, in the next few years, AB must also adhere to the line of industrial cooperation and technology transfer and continue to expand itself through joint ventures to set up factories.

Chinese purchase of civilian mainline aircraft is not just a purely commercial activity in the field of civil aviation, it has become an important bargaining power in Chinese diplomatic negotiations. This is because when China purchases

mainline civil aircraft, the order quantity is as small as dozens or more and hundreds of aircraft. This scale makes the procurement of mainline aircraft a bond for the development of bilateral or multilateral relations between China and EU countries. Since China has been through various disadvantages from embargoes, related diplomatic agreements will be more likely to be concerned by the Government. Therefore, AB should learn to grasp the international situation and take the initiative to attack when it is beneficial to itself. When it's not good for AB, AB does not have to waste resources to invest in tasteless marketing activities.

When necessary, AB even should adopt a timely price reduction strategy to expand the market share of these two models in China, maintain the dominant position and compete with political pressure indirectly creating from rivals.

### **5.3 Limitations of This Study**

Although the concept of market analysis is familiar to both AB and the TSM team, there are restricted information and burdens were occurred. There are many limitations found in this study and listed as follows.

1. The communication between AB and the TSM team was not clear. AB did not reveal their current using way to assess the market due to the strict disclosure regulation. Thus, the TSM team needed much time to find the correct approach to reach their expectation.

2. Many universities and companies were not willing to provide information and their expertise through the phone interview.

3. AB is a huge company and cannot share information to outsiders. The limited information created many difficulties for the TSM team when analyzing the market as some aspects analyses cannot be analyzed deeply to have the best result.

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