

The direction of airlines business models – up or down? (Post Covid-19 crisis – case study)

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Abstract: *This paper deals with airlines business models, mostly full service network carriers (FSNC) and low-cost carriers (LCC) and their position on the airline market. Covid-19 crisis causes many negative impacts on all airline industry. Hybridisation process in aviation industry is described many times in the past; now it has a stronger impact on airline business model development and it is oriented on different aspects than before. The paper emphasises the fact that low-cost carrier’s business model is much closer to the features of the FSNC carriers from the price point of view and vice versa. Furthermore, the authors introduce some other diversifications of airlines business models and the paper offers the new stimulus to move forward in this tough time for airlines business, paradoxically, thanks to Covid-19. Finally, yet importantly, the authors emphasise the important role of the state in the further direction of the airlines during and after the Covid-19 crisis.*

Key Words: *airline business models, Covid-19 crisis, low-cost carrier’s business model, diversifications of airline business models, regulation, state’s restrictions*

1. INTRODUCTION

The airline business model describes how the company creates, delivers and captures the value in different ways to stay profitable and competitive. Moreover, unconventional thinking, mainly due to the fast game-changing aviation environment, on one hand, could support it and, on the other hand, it should contain visions to meet the customer’s expectations and ensure their loyalty for the next travelling.

The most important data that represent the successful airline business model could be presented in terms of how it generates revenues (aeronautical/ non-aeronautical revenues, revenues sources, etc.), what kind of product it offers and for which target group of customers it should be targeted. In brief, the customer’s satisfaction or displeasure with the airline services is another helpful feature that tells about the quality or about the success of the selected airline.

The basic classification of airlines business models consists of the FSNC carriers, LCC carriers, charter airlines, cargo airlines and regional airlines. For the purpose of this paper, the

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authors focus on FSNC and low-cost carriers in more detail. This airlines business models still play an important role in the airline industry as they represent the key element in the hybridisation process, which created hybrid carriers or so-called Noah's Ark carriers (Mrázová, 2016), [2].

1.1 Air transport before and after Covid-19 (analysis)

The airline industry has faced so many crises, e.g., the financial crisis in 2008-2009 caused the demand for travel to decrease rapidly.

Another example of crisis that had a negative impact on the aviation industry was the terrorist attack on the World Trade Centre in New York City on 9th September 2001. The terrorist attack caused the government to block the commercial fleet for 3 days that resulted in a 31.6% reduction in air transport volume in September compared to the same month in 2000 and, indeed, it generated massive losses in industry.

In 2002-2004, there was an outbreak of SARS infection, the global passenger traffic fell by 19% in April 2003 compared to a year earlier and the decrease in Asia-Pacific was about 45% (Sherrisse, 2020), [3].

Currently, the whole world is facing the Covid-19 pandemic crisis, which has led to other economic losses not only in the airline industry. However, the situation is very difficult, airlines need to take action as soon as possible to recover and breathe.

However, the situation is very difficult, the airlines need to take actions as fast as possible to recover and take the second breath.

From this point of view, the authors try to suggest different scenarios of moving forward after the Covid-19 crisis.

Firstly, it is necessary to present the situation in air traffic during Covid-19 pandemic (Figure 1 below).

In case of Ryanair we can see that the traffic fall down about 48%. As far as easyJet is concerned, its drop is about the same magnitude as Ryanair's one about -49%. In addition, Air France lost about 58,6% and Norwegian Air lost the biggest number of passengers – the drop was 61% of its air traffic. Briefly, we can see that LCC carriers started to have faster decreasing level of passenger as FSNC carriers.

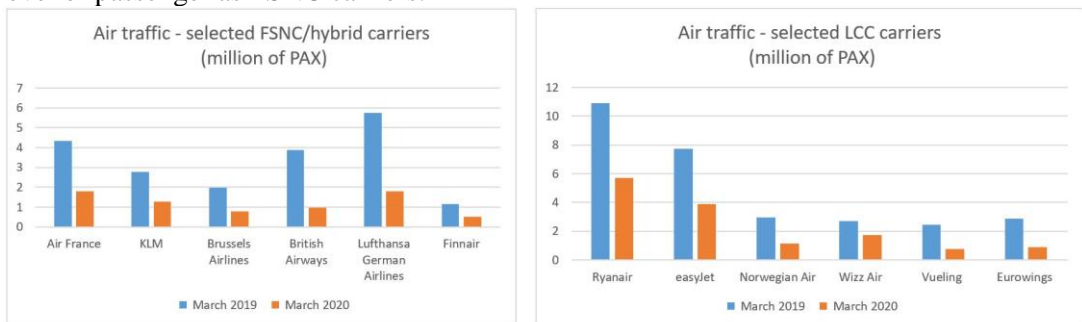


Figure 1. Illustration of air traffic during March 2019 and 2020 (EUROCONTROL, Eurocontrol.int, 2020)

Figure 2 illustrates the data obtained from EUROCONTROL since 02 March 2020 until 25 April 2020 compared to the equivalent days in 2019.

We can see significant decreasing level of LCC flights since 24 March 2020 while in case of FSNC flights the lowest curve was on 01 April 2020.

Cargo flights have the most significant decrease on 12 April but on the other hand, the higher curve was identified on 20 April 2020.

In brief, in April and May 2020 there was an average decrease of about -90% and in June of about -80%.

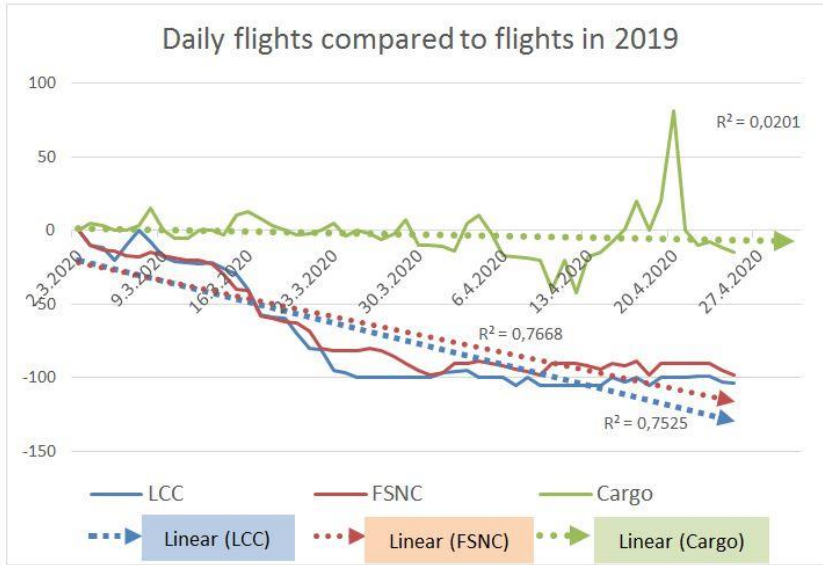


Figure 2. Illustration of daily flights compared to flights in 2019 (EUROCONTROL, The Eurocontrol bulletin on air transport trends, Issue No 208, 2019)

The downward trend of FSNC and LCC airlines is expected to continue, due to the post-pandemic situation on the market and the lower amount of flights compared to the previous year. Moreover, airlines have to find different possibilities to increase their non-aeronautical revenues, as the biggest amount of total ancillaries was mostly based on aeronautical revenues.

1.2 Fuel costs impact on operational costs

The important economic parameters, which will play the key role during the post Covid-19 crisis, are the operational costs and the ways to push the costs to the lowest minimum as possible. The costs scenario related to the LCCs carriers will not change dramatically but in the case of FSNC carriers, it could be based on some different strategic options. One of the possible ways could be the replacement of four-engine aircraft i.e. (Airbus A380) by two-engine aircraft. For example, if we take a closer look on operational costs then it is obvious that fuel consumption per one passenger travelling by Dreamliner is about 34% lower than travelling by A380. Qantas made this comparison and due to this fact, many operators announced that they will terminate their lease contracts in the near future and nobody could predict that the end of the Covid-19 crisis will be coming soon.

Fuel efficiency as one of the attributes that is able to save the costs started to play an important role mainly from the time of aircraft composite materials development. In addition, this leads towards the fact that four-engine aircraft lost the power over the market (it had an advantage for ETOPS operations in comparison with two-engine aircraft in the past - approximately 15 years ago).

Now, the situation has changed mainly thanks to the design of two-engine ETOPS aircraft that has a lower cost, on one side, and on the other side, it helped to achieve a competitive advantage on the aviation market. If the airlines will make a decision, about this possible scenario it will take some time and lately it will be seen whether it was a good solution.

Many airlines started to pay attention to the fuel efficiency as fuel costs are a significant economic parameter on one side, but on other one, it is very variable expense. In Figure 3 we can see that fuel costs represents a significant percentage of total operating costs.

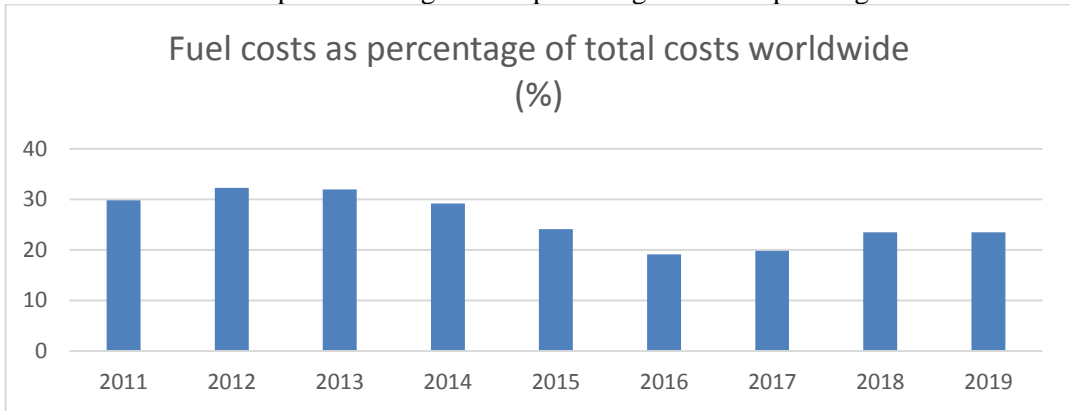


Figure 3. Fuel costs value of total operational costs (Sherrisse, 2020), [3]

Moreover, the analysis was made for different wide-body aircraft to emphasise the importance of fuel costs share in total operating costs. Different fuel prices, standard or maximum seating arrangements and routes distances – all this features have an important impact on evaluating the fuel costs. The analysis consists of ten mostly used aircraft for medium and long haul flights and the normal fuel price and standard seating arrangement were taken into consideration. The left side of Figure 4 shows the fuel costs of selected passenger aircraft during flight from Hong Kong to Seoul (medium range) and the right side represents the fuel costs from Hong Kong to Sydney (long range). The flights across the China region were selected to show the airlines with the bigger amount of delivered wide-body aircraft for medium/long-haul flights, such as A380, except United Arab Emirates.

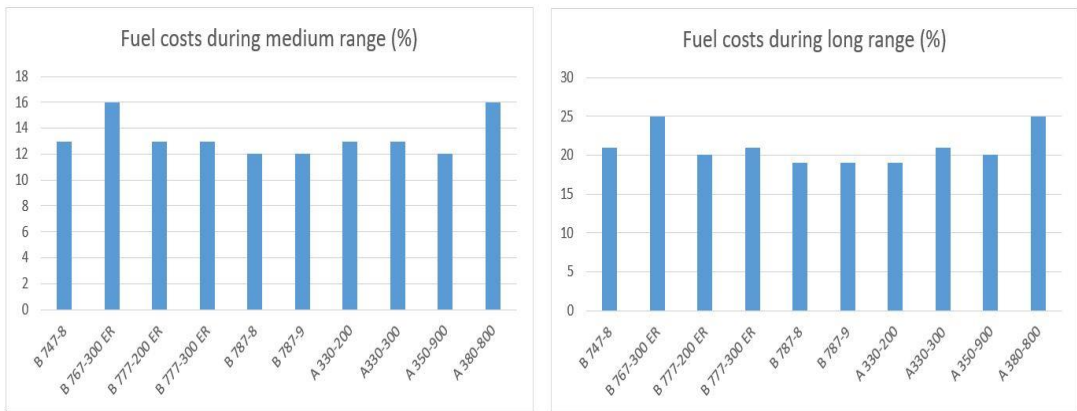


Figure 4. Fuel costs as percentage of total costs during medium/long range (Minwoo et al., 2019), [5]

From Figure 4 we can see that the most fuel efficient aircraft for medium range with standard seating are Boeing 787 and Airbus A350. In addition, it is obvious that Boeing 787 is also the most efficient aircraft. If we take into consideration the scenario about changing the four-engine aircraft and its replacement by two-engine aircraft – then for instance Airbus A380 is the aircraft with the highest fuel costs from the selected group of aircraft for medium and long haul routes. Following Minwoo (2019), the most effective aircraft with the higher fuel

price and standard seating was considered the Boeing 787 aircraft. The case when the fuel price is low and we take into consideration a standard seating than the most efficient aircraft is Boeing 777-300 ER. In addition, operational costs have an important impact on the aircraft operations. Following this, it is also important to take into consideration the ancillary revenues as well, as the amount of aeronautical revenues are limited by the aircraft flying and they are a very important income in the total airlines revenue package. Due to the pandemic crisis, airlines will be forced to find another sources of the ancillaries as the services on board (food, sales) are limited, etc. When we take a closer look at Ryanair, 27% of the total revenues represents the ancillary revenues in 2017. Moreover, Ryanair has a partnership with Air Europa, which allows to Ryanair customer's to book Air Europa long-haul flights. Figure 5 compare the amount of ancillary revenues in LCC and FSNC carrier.

As can be seen in Figure 5, in the case of low-cost carrier, such as EasyJet, luggage charges represent the most significant source of the incomes, almost 45%. When we take a closer look at the FSNC carriers, such as British Airways we can see that the highest percentage of the ancillaries is based on the FFP while luggage charges represent just 12%.

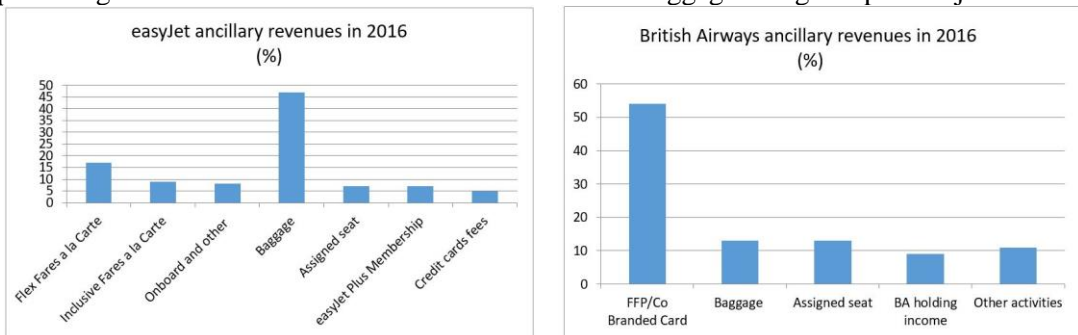


Figure 5. Ancillary revenues at selected airlines (Paul Ablin et al.) (IAIR Group , 2016)

Due to the government restrictions, since March 2020 gradually, all the flights were suspended; many airlines have started to recover since May 2020, but still, the load factor of the airlines is low and it is also supported by increasing operating costs. It is necessary for airlines to find ancillary revenues in order to increase their total revenues as much as possible. When we take a closer look at ancillary revenues in 2018, Ryanair was on the top with approximately 2,350 million Euros and on the second place was easyJet with 1,250 million Euros according to official financial statements of the above mentioned airlines.

Briefly, the situation in the aviation industry is hard now and it is necessary to find another ways of keeping costs down as much as possible. From the other point of view, the positive effect of the Covid-19 crisis is that global carbon dioxide emissions fell by 17% compared to the average daily levels in 2019. Moreover, airlines were too busy to pay attentions to the effectiveness of the fleet, as they tried to earn money as much possible and now, thanks to Covid-19, the airlines have a space to evaluate which aircraft are efficient and which should be replaced.

Many airlines have accelerated their move to digitalisation, their adoption of biometrics and other modern technologies in response to this crisis. For instance, AirAsia introduced a facial recognition for check-in where it saves the time to deal with passenger's ID or boarding passes. The impact of Covid-19 has led to a burst of innovation across the aviation industry. From using sniffer dogs to identify infections to UV sanitizing robots on planes, ideas that were in the further future before Covid-19 suddenly have been accelerated, and new ones are to be developed in near future.

2. POSSIBLE SCENARIOS OF AIRLINE BUSINESS MODEL DIRECTIONS

For the purpose of this paper, authors focus on FSNC and LCC carriers' position on markets worldwide. The FSNC carriers had a monopoly status on the aviation market in the past but since the deregulation process in 1978 the situation has changed. Deregulation and liberalisation process caused that new airline business model appear - the LCCs entered on the aviation market and introduced the different strategy as the FSNC carriers have presented before (Tomová Anna et al., 2017). LCC carriers decreased the price of flight tickets and this strategy opened the doors for the travellers who could not allow paying expensive prices for FSNC carrier's offers. Indeed, LCC carriers did not offer any food on-board as FSNC used to do but it was not very important at that time. The entrance of LCC carriers on the aviation market changed the customers' expectation that was supported by the option of cheaper travelling on one side and the rapid growth of the air transport on the other one.

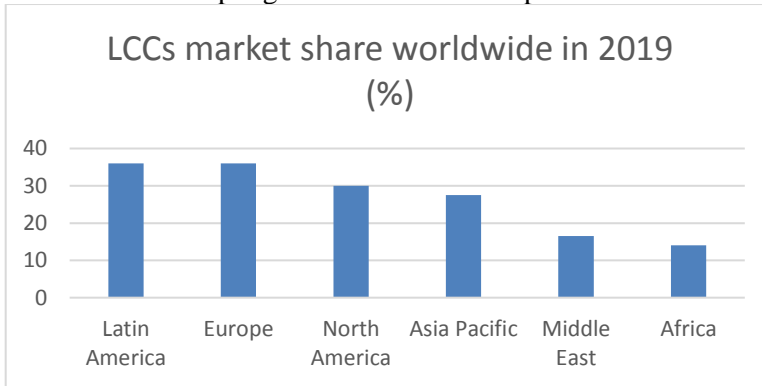


Figure 6. Market share of LCCs in 2019 (Statista, 2020), [1]

Figure 6 shows that LCCs have a significant position on the European market. In 2019 LCCs carriers had about 33% of the total seat capacity in Europe. The low-cost carrier market in Europe. The low-cost carrier market in North America can be described as rather stagnant due to the oligopoly of airlines such as Southwest Airlines, American Airlines and Delta Airlines. The market share of all seats in Europe flown by LCCs has grown on average about 1.5% annually. For instance, in 2018 Ryanair had about 139 million annual seat capacity. From the LCC seats point of view, the biggest market in Europe is Spain (82.2 million departing seats in 2018, with the UK is in second place (75 million seats) and Germany in third place with about 56 million seats (EUROCONTROL, The Eurocontrol bulletin on air transport trends, Issue No 208, 2019).

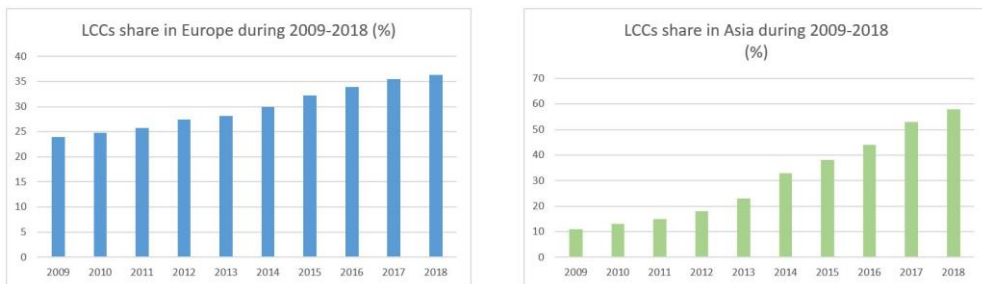


Figure 7. LCCs market share on Asian market in 2009-2018 [authors]

According to Figure 7 we can see that LCC represents about 37% in Europe while in Asia it is almost 60%. Both graphs show the increasing trend of LCCs carriers on the European and

Asian market during 2009-2018 but nowadays we can predict that many LCCs will suspend their operations and they could have a decreasing trend due to the post-pandemic crisis.

Moreover, LCC carriers arrive to Asia lately compared with Europe or America and there were just two small LCCs operating in all Asia-Pacific area at the time while nowadays in Asia LCCs account for nearly 30% of capacity. In addition, LCCs now account for more than 50% of domestic capacity in 7 Asian markets (India, Indonesia, Malaysia, the Philippines, South Korea, Thailand and Vietnam) and more than 30% of international capacity in 5 Asian markets: Indonesia, Macau, Singapore, South Korea, Thailand (Centre for Aviation, 2019).

In addition, according to Figure 8 we can see that the biggest number of domestic passengers was transported in Asian region and the lowest number is visible in Africa and Middle East regions. The biggest number of international passengers was transported in Europe and the lowest number in African region. Following the above mentioned numbers, we can say that the scenario used in Asia for the first recovery could also be applied in Europe.

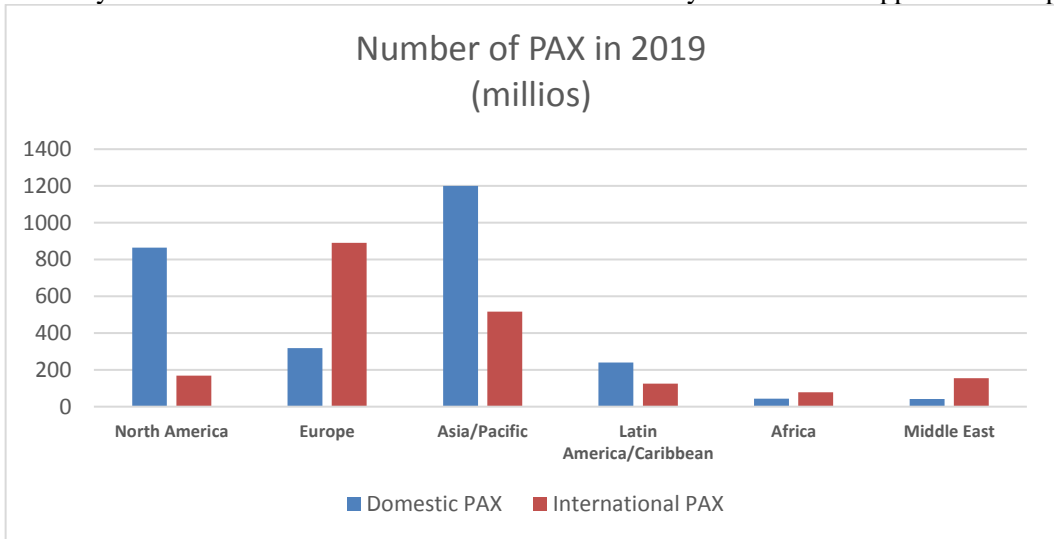


Figure 8. Number of domestic and international PAX (IATA, 2019)

Covid-19 crisis has changed all patterns in the aviation industry, as it is described in previous paragraphs and this is an undeniable fact.

Following this, it is needed to support the further recovery and find possible directions for sustainable growth of the airlines.

The next paragraphs offer some scenarios where the airline industry could move after Covid-19 crisis.

Since the Covid-19 crisis has appeared in March 2020, air cargo has become an important helper to deliver all needed medicines, medical equipment and the most time-sensitive materials. Many airlines were forced to utilize the cargo capacity in passenger aircraft to earn some money.

For instance, Finnair was one of the first European airlines, which started to spread its cargo capacity by removing economy-class seats from the cabin of its two Airbus A330s. Nowadays, the global roll-out of the vaccine is expected to generate more than 35,000 tonnes of airfreight.

For the purpose of this paper, the authors will not pay an attention to cargo flights, but they concentrate on five possible scenarios where the airlines could move forward, as it is illustrated in Figure 9.

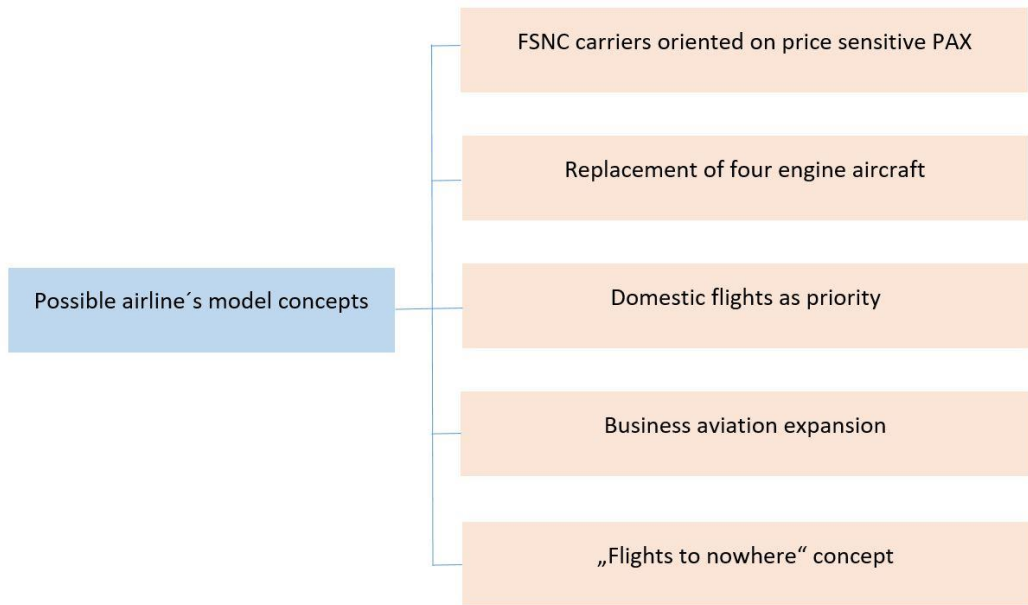


Figure 9. Illustration of possible airline's model concepts [authors]

The impact of Covid-19 on international traffic in Europe represents the loss of about -100 billion dollars and a traffic decrease of about -73% as was illustrated on Eurocontrol website. Following this, we can predict that from the airlines point of view – we can see fewer airlines, some of them will stop operating and some of them will be smaller. Moreover, some FSNC carriers may cooperate with LCC for short-haul flights because FSNC carriers may terminate some of their domestic flights for short-haul traffic as they could be forced to reduce their fleets and save the operating costs as much as possible. Another possible direction of **FSNC carriers could be based on the business model that will be closer to the LCCs features** – they will try to keep the prices high on one side (to support the FFPs, for instance) that represent the highest part of ancillaries. On the other hand, they will try to decrease a quality level a little bit as European Aviation Safety Agency recommended offering the limited offer of the food on board and due to this fact, which could have a negative impact on valuable customers on the one hand and a loss of loyal customers on the other. Rising fuel prices had a major effect on the airline industry and following this four-engine aircraft have significantly higher fuel consumption that represented higher operational costs as it was described in the previous chapter. Following this, one scenario could be represented by the **replacement of the non-efficient aircraft** that will lead to the lower operational costs as it was supported by graphical schemes in previous chapter. Moreover, many airlines were forced to cut off their fleet, such as British Airways that has decided to reduce all B747 fleet. Moreover, the replacement of the four-engine aircraft could be supported by the fact, that the four-engine aircraft were used mainly for the hub and spoke operations where they were represented by high capacity flights. The Covid-19 crisis caused that many airlines started to be oriented to the “point to point” model with the best-suited aircraft with low capacity flights. Another possible scenario could be based on the orientation of airlines on **domestic flights** as AirAsia started to do after the Covid-19 crisis and many aviation experts confirmed that Asian domestic travel is the first to recover. From the geographical point of view, in Asia the conditions for the domestic flights are convenient for tourism. For instance, if customers want to hike the

mountain or want to have a holiday on the beach it is possible to do that across the country without travelling abroad. In Europe, this strategy started to use LOT, Lufthansa and EasyJet. The main goal is to support tourism in the region on the one hand, but also to keep aeronautical revenues as high as possible, on the other hand. In addition, we would like to emphasise that this strategy cannot be used in all the European states, such as Italy, Spain, Portugal or Greece. Low-cost carriers in above-mentioned countries are popular but because the total areas of these countries which is not much large and customers rather use car/ train transportation that is cheaper than the air transportation. Moreover, the above-mentioned European airlines aircraft fleet consists of small aircraft such as A320 or B737 that are not very economically efficient for short-haul flights from the fuel costs point of view, and low-ticket prices will not cover the operational costs. Briefly, some scenarios that are working very well in Asia do not work in Europe and vice versa.

The business aviation turnover decreased by 76% in 2019, but in June 2020 the decrease was just about 17%. During the pandemic crisis, business aviation has started to be the means of choice for people due to the fear of traveling with commercial airlines, where a larger number of people are concentrated in the small area, but also due to the shorter travel time and the greater comfort offered. Nowadays, it is hard to predict how many new passengers will start to travel by this transportation segment and how attractive it will become for them but it is clear that the business aviation is the segment of air transport that started to recover much faster as the other segments. As the commercial air transportation has hard times due to the Covid-19 crisis, some of airlines started to increase their revenues by changing their business model for a while in a way in a way they had not done before. For instance, Qantas started to offer scenic flights for passengers that miss the excitement of travel (Channel, 2020). This new experience of travelling starts to be interesting as the flights were sold out very fast. The similar experience was offered by Starlux Airlines that started to offer “**sightseeing flight to nowhere**” where the flight was over the Taiwan-controlled Pratas Islands in the northern part of the South China Sea. In Europe, Smartwings and aviation museum Aeropark in Hungary started to offer sightseeing flights over Hungary and after landing, it is completed by a complimentary airport tour. Royal Brunei Airlines, Eva Air or All Nippon Airways already provided this type of flights. They seems to be attractive for the passengers who are missing the travelling and it started to be interesting change in the airline business model. If this kind of flights will be offered for a long time and if it will be profitable it will show the future.

Briefly, another space for the discussion could be based on the prediction if the current conditions on aviation market are able to create a new business model or the aviation market is oversaturated by the existed airline business models and there is no place to create new one.

3. CONCLUSIONS

Previous chapter introduces the possible scenarios of airlines directions after the Covid-19 crisis. As it was mentioned above, some airlines will bankrupt, some of them will be forced to change their core airline business and divert it to a more efficient way. Some lucky airlines will be able to recover systematically and survive only on financial resources, if they exist or they can recover faster thanks to state aid. Nevertheless, when we take a closer look at the airline business model that could be considered to work well from economic point of view on one side and from customer’s point of view on other one, we have to take into consideration the state regulations related to the reduction of the Covid-19 impact on airline industry. The economy of every state has an impact on the airline’s recovery, for instance, the recession may temporarily put about 115,000 people out of work, and the GDP is expected to fall by 6.2%

this year in Slovakia (NBS, 2020). Briefly, the development of mentioned attributes will have a strong impact on the all economic factors and airline business, too. Moreover, in March 2020 Lufthansa was predicted to reduce the size of the overall fleet by about 100 aircraft and may lay off about 10,000 employees. Nowadays, Lufthansa plans to reduce its fleet by 150 aircraft and cut more jobs than 22,000 full time equivalent positions (Copley et al., 2020). Following the results we can see that in spite of the capital injection from the state, the airlines are not able to ensure the stability of their revenues and they are forced further to cut their workforce, fleet and other expenses. Following this, another important fact is that the future direction of airline business model and recovery from post-pandemic crisis will be successful just in the case of discipline of people and secondly it will be depended on the strictness of the national health protection regulations. The way, in which the airlines business model will continue, will also be based on the government help. We could divide it into two ways:

- 1.) Financial state aid, or
- 2.) The order of the transport services during the emergency e.g. transport of essential medical items (support of the domestic airlines, such as Go2sky in Slovakia or Smart wings in Czech Republic).

In addition, the passenger have to realise that the decision to travel or not to travel will be linked also to the restrictions of the country where they are living in but also the restrictions of the country where they are travelling to. When we take a closer look to the so-called selection process of the passengers, it could consist of:

- The restrictions of the country where they are travelling to,
- Required quarantine (in the state of departure, in the state of arrival, or both),
- Any transfers (the length of travelling),
- The departure times, etc.

In addition, as the government will take unprecedented action to prevent the spread of the Covid-19, business will face to an ever-more unstable environment and it will be hard to operate within. Moreover, the further development of the airline business model cannot be considered without the merging three major components, as can be seen in Figure 10.

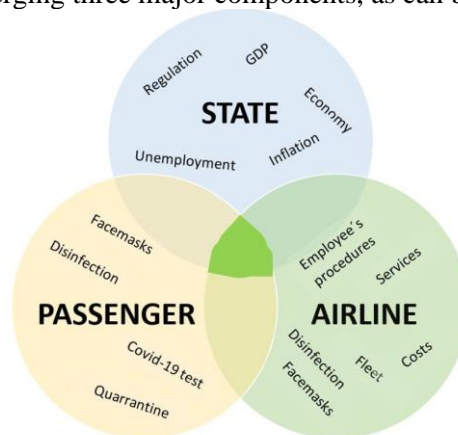


Figure 10. The illustration of three basic components affected the airlines development [authors]

As can be seen in Figure 11 we create three situation models. The first one will emphasise the situation when the state will create some restrictions. The second simulation will be based on the fact that the state will create stronger restrictions. The third simulation will represent the situation when the state will not create the restrictions and the activities will be the same as before the Covid-19 pandemic.

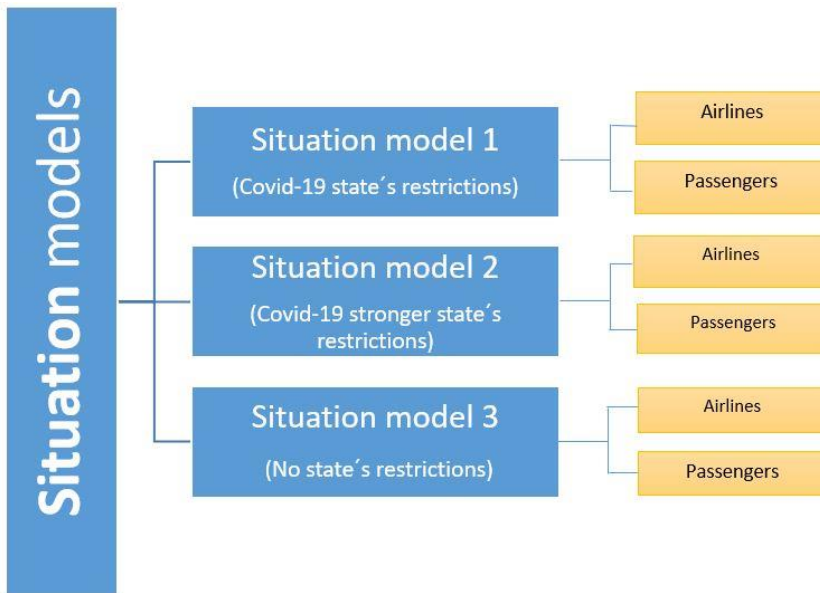


Figure 11. Illustration of the situation models [authors]

According to Figure 11, in the case of the first situation model, the airline's load factor will be lower and the expenses will be higher. It could cause the need of reducing workforce, fleet or services. From the passenger's point of view, they will refuse to travel due to the wearing facemasks (uncomfortable); mandatory quarantine after the arrival is another reason, which could have a strong impact their decision to fly or not to fly.

In the case of the second situation model, the flights will be prohibited except the humanitarian cargo and repatriation flights.

The aircraft will be grounded and due to this, the aeronautical revenues will be stopped on one hand and the costs will be higher, on other one.

The case of the third situation model will represent a casual life without any restrictions. The passengers are willing to travel, the airlines will have a high level of load factor, and the revenues will be able to cover all costs.

Briefly, it is necessary to realise that the situation where the state has a status of decision-making monopoly is hardly predictive for the airlines to be economically stable. Due to this, as can be seen in Figure 10, the space of circles that overlap has a relatively small area, which is highlighted by dark blue colour.

Following this, it is necessary to ensure the largest area of overlapping of the circles due to the fulfillment of the requirements of all the three components.

One of the possible ways to spread the highlighted area will depend on the development of the vaccine and related treatments for Covid-19. How fast the recovery will be happening is directly addicted to, the state's activities and it will be supported just by the discipline of the population in the countries.

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