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MASTER'S THESIS

**TYOLOGIES OF BUSINESS MODELS IN THE AIRLINE
INDUSTRY**

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AUTHORSHIP STATEMENT

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INTRODUCTION

The airline industry and the economies that they serve are inherently tied together; as economies grow, so does the aviation industry as a result of increased business passenger traffic, increased tourism passenger traffic, and increased cargo traffic. Most advanced economies cannot compete in the global economy without the presence of air traffic connecting that economy to the rest of the world; likewise the airline industry, cannot survive without a growing economy to fuel the air traffic that is necessary for the existence and/or growth of airlines. A recent report by ICAO (the International Civil Aviation Organization is a United Nations agency headquartered in Montreal, Canada that sets standards and regulations for aviation around the world) in 2017 which is titled *Aviation Benefits* (as summarized in the article “Report Launched On Economic Benefits Of Air Transport”, 2017) explains “...that aviation is essential to the economic and social development of cities, countries, and regions everywhere...”. This is why it is ever more important that individual airlines be prepared for times when the economy is growing and air traffic demand rises; otherwise it could lose part of its market share and competitive advantage to other airlines that operate in the same geographic and business segment environment.

However, being prepared to respond to or anticipate the growth in demand for air traffic takes more than just operating an extensive route network (a network is an airline’s entire collection of routes that it operates regularly) with ample capacity. Before 1978 when the United States passed the Air Transportation Regulatory Reform Act, also known as the Airline Deregulation Act, airlines, for the most part, just continued to do business as they did in the past, operating set routes (a route is a flight that operates between two specific airports) at regulated prices while only being able to compete somewhat on service and with the small differences in the amenities that they offered. As a result of the operators of routes and the corresponding prices being highly regulated, protectionism ensued for the incumbent airlines, which did not have to worry about the entry of new competitors into their realm, be it from another existing airline or from a potential new airline. After deregulation of the aviation industry occurred in the United States, and subsequently in Europe and other parts of the world, airlines were then able to compete more directly, at first on domestic routes, and later on international routes. This resulted in airlines having to become much more competitive when it came to ticket prices, services, routes/network structures, and a number of other facets in the airline industry; airlines also had to become more innovative in the way that they managed, sold, and marketed these aspects of their business to potential customers. Deregulation of the airline industry caused the airlines to constantly evolve their overall business models and alter the sub-business models that they employ(ed), and do so at a rapidly increasing rate.

For this master thesis, the focal point will be to investigate the airline industry, as it continues to transform rapidly, partially due to new products and technologies entering into the industry and also as a result of new business models and strategies being employed by

different airlines around the world. Looking back to second half of the twentieth century when the airline industry really started to take off and comparing that to today's airline industry, it can be seen that a plethora of changes have occurred, and they only seem to be speeding up exponentially as time goes on; as it is hard to anticipate where the sector will be in the next ten, twenty, or fifty years, airlines, airports, and economies are put in a dilemma of guessing what will come next, and making it more difficult to plan and be prepared for the future, especially for markets such as Slovenia, who no longer have an airline with a hub (an airline's hub is an airport where the airline has a significant presence with at least one aircraft based there and where most of the airline's flights fly to a variety of airports and not just to one or two airports) based in its country.

The purpose of my work is to look at the airline industry in the past and present and define the current situation as it is; this will look at general business models, and demonstrate how they are currently in use in the airline industry. With this knowledge, it will then be to analyze what the airline industry could look like in the future. This thesis will answer three specific research questions:

- What typologies of business models are currently in aviation?
- What are the determinants in the different airline business models?
- What airline business model(s) is/are most suitable for the Slovenian economy and its businesses?

There are many different ways to define a business model, as certain aspects of the business model can be emphasized in the definition or cater specific to one industry or business sector. A business model is "a plan for the successful operation of a business, identifying sources of revenue, the intended customer base, products, and details of financing" (Lexico.com, n.d.) and "A business model describes the rationale of how an organization creates, delivers, and captures value" (Osterwalder & Pigneur, 2010) are two general business model definitions that can be applied to any industry, as they explain the basics of how businesses operate. However, there is one facet that must be emphasized more than any other in a business model definition, in which the following definition explains most accurately and realistically; "A business model is a framework for making money. It is a set of activities *which* a firm performs, *how* it performs them, and *when* it performs them so as to offer its customers benefits they want and to earn profit" (Afuah, 2004). This final definition by Prof. Allan Afuah is the most appropriate for the airline industry, as they first, like any business, live and die by whether they make money; the airline industry is especially volatile when it comes to making and losing money, mostly due to both direct and indirect factors out of their control (terrorist attacks, economic crises, global health pandemics, etc.) that can severely reduce the demand for air travel, which is why it is of the utmost importance that an airline has a solid business plan for making money when times are good, so they can persevere during troubled and turbulent

times. The set of activities stated in the definition “which” a firm performs refers primarily, specifically for the airline industry, to maintaining air connections between different cities/airports for both passengers and cargo, while offering a range of ancillary services and activities. Next in the definition, the author touches on “how” a firm, in this case the airlines, perform these activities, which can be divided into two categories; one being the activities that all airlines can have little variance over and must meet certain safety standards, such as regular aircraft maintenance, pilot and crew rest times, etc., the other activities are those that the airlines can tailor to their business and customer needs, such as check-in, airport lounges, boarding procedures, and in-flight services and amenities, just to name a few. “When” a firm, or airline, performs these activities is also important for defining its business model due to the fact that different airlines and flights attract different types of customers, hence the time that an airline performs its flights on a route and how often it operates a route can identify which type of business model the airline is employing; this plays directly into the final part of the definition where it states that the “which”, ...“how”,...and “when” the activities are performed are done to offer the customers what they want and to make a profit in return for that. This is very important to clarify because a business does not want to have all of its business activities and resources set to attract one type of customer group, when they are trying to target a different customer group.

This research uses this definition as a base for identifying the different business models in the airline industry and their components/sub-business models. The methodology consists of the studying of general business models through business cases and literature review, which will then be analyzed, keeping in mind the “which”,...“how”,...and “when” aspects of the business models and their corresponding activities, so they can be identified and categorized into the different general business models. The process will then be to study and dissect the different airline specific business models, so that the similarities between them and the general business models can be distinguished so that the dots between them can be connected. It will then be to understand this relationship between the general business models and that of the airline specific business models to see which general business models could enter into the airline business models in the future.

This dissertation begins with some background information on the aviation industry, what it looked like in the past and how it transformed into the form it is presently. It will also explain the basic rules and regulations that the airline industry operates with today without going deeply into the different airline business models. A brief history of the aviation sector in Slovenia will conclude this first section, for contextual purposes. The next section will begin by looking at why business models are important in general. This will be followed by identifying general business models that are currently used in the airline industry, without attaching them to any specific airline business model; they will be split into two different groups, the first will have business models that are predominately based on a product or service, while the second group will be about business models that apply to how a company conducts their sales. Following that chapter, the different airline business

models will be defined and what determines each of them from the other business models in the aviation sector. While all of the business models in this section are about the various airline business models, it will be explained that some of the models work completely independently of all of the other business models, while some business models work in partnership with other business models, and in some cases, where more than one business model will be used within a single parent airline company. The subsequent section will then speculate what the future of aviation could look like globally, through the use of business models that are not very prevalent in the aviation realm; some of these possible future business models will only be able to enter into the aviation industry with the use of new and future technologies and aircraft types, which will be introduced. Before the conclusion, this paper will finish by speculating what the future holds for Slovenia, in terms of aviation sector, when it comes to its connectivity to the world. The final section of this paper will have a conclusion consisting of a brief summary and review of the content of this thesis.

1 AVIATION BACKGROUND INFORMATION

This first section will give context to the aviation industry, explain some different facets of the industry and exploring how the industry was founded and how deregulation of the industry played a major part in forming what the aviation sector looks like today and how it operates. Following that, this dissertation will then shift its focus specifically to Slovenia, giving a perspective into the presence of the aviation sector, looking in more detail at Adria Airways and the international airports of Ljubljana, Maribor, and Portorož.

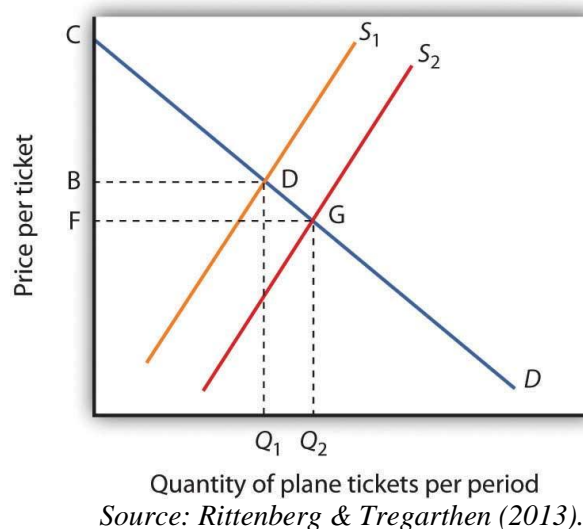
1.1 Aviation Industry Information and History

The aviation industry is very intriguing to experts and consultants, as well as to the general public, as it is one of the industries that these two groups frequently use whether it is to go for a business trip or to go on holidays. In comparison, many people are not familiar with how derivatives and equity trading work or understand how IT companies and computer engineers/programmers make the internet and websites function. While the general public may be able to identify different airlines and which ones are able to connect them from their home airport to their destination of choice, they have very little understanding of the inner workings of how an airline plans, operates, and executes their business model. Part of this is due to the many complexities in the industry, but also due to the fact that it is still highly regulated (mostly when it come to maintenance and safety aspects), though not as much as it was earlier in much of the twentieth century.

Previous to 1978 when the United States passed the Air Transportation Regulatory Reform Act, the United States Federal Government, through its Civil Aeronautics Board, would regulate prices that airlines could sell tickets at, routes that individual airlines could operate, and the entry of new airlines. However with the era of jet aircraft and higher

capacity aircraft beginning to take hold in the industry, which had lower per seat cost, airlines were now seeing huge inefficiencies in the industry as there was too much supply/capacity for the number of people that would fly at the set, regulated, prices. That all changed when “in October 1978, Congress passed the Airline Deregulation Act, which placed ‘maximum reliance on competitive market forces.’ The Civil Aeronautics Board would automatically certify entry, unless doing so damaged the public interest. Fares would be flexible within a wide zone of reasonableness, and mergers would be readily approved. If all went well, the Civil Aeronautics Board would cease to exist by 1985” (Vietor 1990, p.83). This major shift can be seen in figure 1, which demonstrates how deregulation led to higher load factors (a load factor is the percentage of seats that are occupied by passengers on a flight; this can be calculated on a time basis, flight number basis, route basis, and/or airline basis) for the airlines, with the supply line shifting from S_1 to S_2 , resulting in the price per ticket lowering from B to F and the quantity of tickets sold from Q_1 to Q_2 .

Figure 1: The Supply Effect of Airline Deregulation in 1978



In addition to the immediate changes that took effect from deregulation, two other concepts that are still prevalent in the airline industry today, started to be incorporated into most airlines around the world, with those being business class and frequent flyer programs. By the time deregulation came, first class prices were extremely high, compared to coach prices, which created a void between the two classes for the passengers that were willing to pay a little more for better service, but not at the level that first class cost. Explained in more detail, “... by the mid/late 1970s, there was an increasing gap between first class and coach class on planes and in their respective fares. First class fares had trended upwards, while coach class fares had trended downward. Whereas when the two classes first appeared, there was only a 50% or less extra cost to upgrade from coach to first class, by the late 1970s, and in some cases, there was as much as a ten fold difference in fare” (The Travel Insider, 2016). Furthermore, business class then, was not what it is today, as it had more placed an importance on small benefits and perks as opposed to trying to be a slightly

cheaper version of first class. “The driver for business class’ creation in 1978? Fares, of course. International first-class prices had gotten ridiculously high, discounting in the economy cabin was rampant and the full-fare coach business traveler was disgruntled. He (and it was mostly he back then) felt he was getting nothing for the higher coach fare he paid...Early iterations of business class didn’t offer much in the way of additional seat comfort. Frills were minimal. The big benefit was...things like separate ticket counters and boarding privileges, the chimera of priority luggage handling and a slightly upgraded in-flight meal” (Brancatelli, 2012).

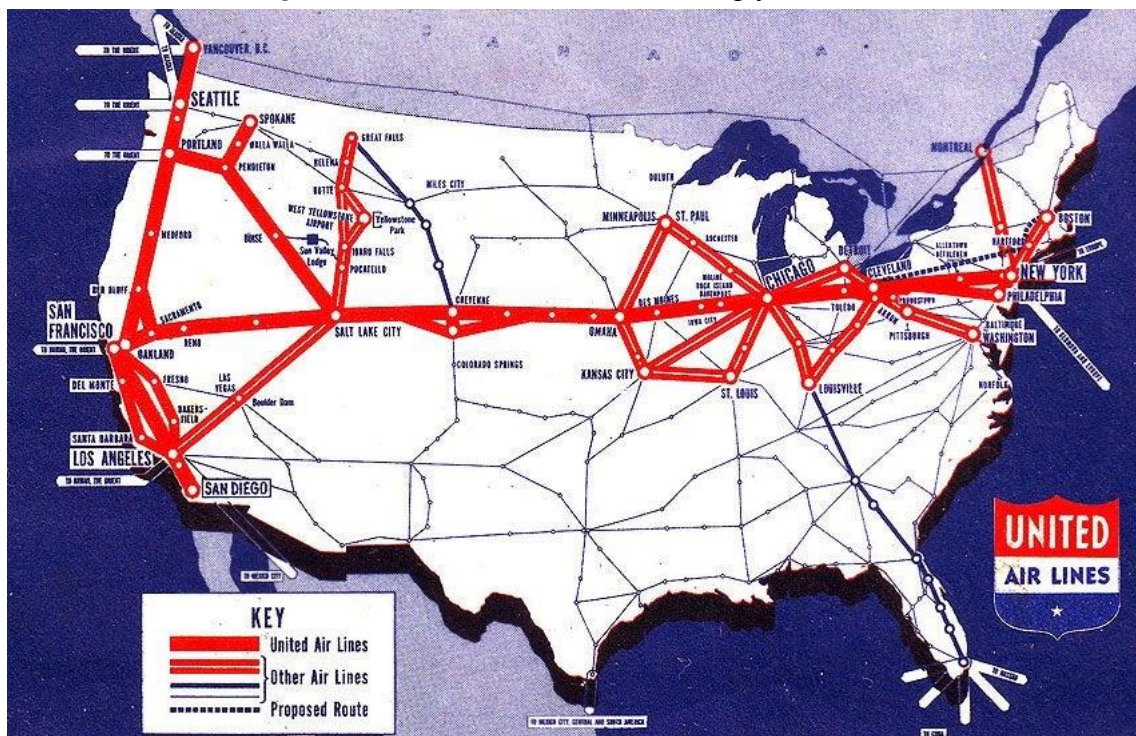
While business class was born out of a passenger segment void that stemmed from deregulation, the creation of frequent flyer programs was more of a result of airlines trying to retain the customers that they had previous to deregulation. In 1979, Texas International Airlines launched the first frequent flyer program that rewarded passengers with miles based on the distance that they flew; Texas International merged with Continental Airlines in 1982, which then merged with United Airlines in 2010. Other airlines followed suit by creating their own frequent flyer programs with Western Airlines (who later merged with Delta) in 1980, American Airlines, United Airlines, and Delta Airlines in 1981; in 1982 British Airways became the first European carrier to start a frequent flyer program, with other international airlines slowly creating their own programs in the subsequent years (Qubein 2017; Rosen 2019). The reason why airlines in the United States saw such an urge to defend and retain their customer bases was that without the highly regulated environment that existed before 1978, airlines now had to worry about direct competition with other airlines that mostly did not exist before; the airlines had to now incentivize customers, who previously did not have a choice of which carrier to fly on, to continue to fly on their airline instead of on another airline flying the exact same route.

While the transition from this highly regulated and protectionist business environment to a mostly free market environment had some bumps the first couple of years, airlines started to adapt to their new business freedoms and were able to correct the inefficiencies that existed in both the industry and in their own airline, leading to the reoccurrence of profits. However this journey from being unprofitable to profitable did not happen overnight and not without casualties; the switch from being regulated to being unregulated, which had major changes in policies, regulations, and the general business environment, required and equal amount of major change on the part of the airlines when it came to setting ticket prices, services and amenities it offered, and most notably setting routes and/or their network structure.

In the 1920’s and 1930’s when the United States’ earliest airlines started to take off, and somewhat to a similar extent in Europe, their business operations didn’t revolve around the transportation of passengers, but of mail; as explained, “Although these days, passenger revenues make up more than 90% of most airlines’ income, the early airlines were created primarily to fly US mail around the country. Passengers (and other freight) were an afterthought, and all the money and profit potential revolved around mail” (The Travel

Insider, 2016). But as airlines started to place a greater importance on the transportation of passengers, a proper route network was needed so that potential customers would have a clearer picture of where they could fly to; if a person was sending a letter by mail, they wouldn't care which airports/cities the letter would pass through before it arrived at its destination, they just cared that it arrived there. The earliest airlines began with what is referred to as a linear network, one that resembles that of how a bus or train operates, stopping at multiple intermediary stops between its origin and destination, allowing passengers to board and disembark the aircraft at different airports along the route (McDermott, 2017). Around 1930 United Air lines, later changed to United Airlines, was founded, "When four fledgling airmail carriers were 'united', a pioneering aviation company was born. That innovative enterprise would become the world's largest airline (Fuscher & Garvey, 2001). By merging these companies together into one, United Air Lines was able to offer this pioneering coast-to-coast route from New York to San Francisco via Chicago [becoming] United's signature 'Main Line'" (SFO Museum, 2017). Figure 2 below shows United Air Lines' route network that it was operating in 1940, with the "Main Line" route from San Francisco to New York present, displaying how United Air Lines' network was made up of linear routes.

Figure 2: United Air Lines' Route Map from 1940



Source: Wikimedia Commons (n.d.).

For a couple of reasons, routes operated in this linear configuration, having both advantages and disadvantages. In the very early years of air mail transport, routes operated this way because it was not possible to fly in bad weather and at night, as airports did not have lighted runways, and pilots had to use railroads and other ground reference points in

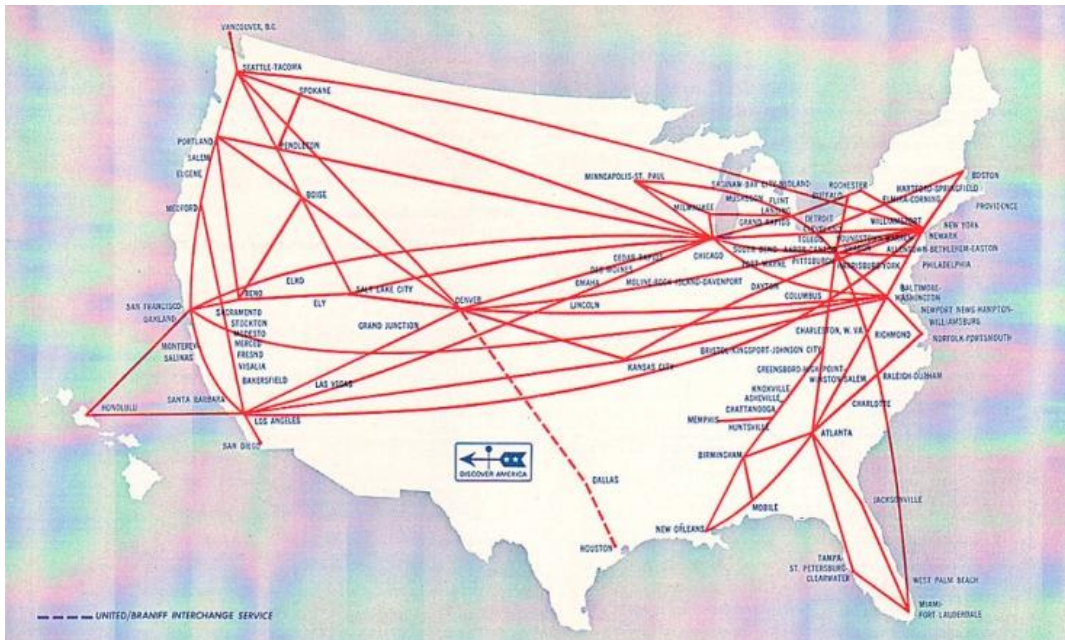
order to know which direction to fly, restricting how long they could fly. In addition to that, the types of aircraft available to airlines up until the end of World War II era were not able to fly long distances due technology reasons and the amount of fuel that airplanes could carry, which also limited their range. The first major step in alleviating this range limitation and to decrease the flying time was in 1933, when the Boeing 247 airplane made its debut; “It took the Model 247 20 hours, with seven stops, to fly between New York and Los Angeles. While that may seem like a long trip by today’s standards, it was more than seven hours faster than any other airliner. The ability to cross the United States in less than a day changed air travel overnight” (Lombardi, 2008). While these were the main reasons that the linear route network was used in the first half of the 20th century, the main disadvantage was that whether a passenger was somewhat close or far from their destination, it was likely that they had to make multiple stops on their way, consuming more time than if there was a non-stop flight that was able to operate between their origin and destination. However, the primary advantage, mostly on the airline side, was that passengers going to two different city pairs (a city pair consists of a passenger’s origin and destination cities regardless if that passenger flies non-stop or with stops) could be on the same airplane, so as long as their origins and destinations were on the same linear route; this meant more efficiency for the airline as one airplane was not only dedicated to just one city pair.

After World War II, as aviation technology really began to progress, airlines were now given the opportunity to be able to serve routes that could be flown without having to make stops due to fuel limitations or other constraints. This especially came true with the beginning of the airline jet era, when the British company de Havilland introduced the Comet jet airliner, which was introduced in 1949 and made its first commercial flight for the British Overseas Airways Corporation (BOAC), which later merged with two other companies to form British Airways, flying the over 11.000 kilometer journey from London to Johannesburg, with five stops in Rome, Beirut, Khartoum, Entebbe and Livingstone. While the range only increased marginally over turboprop airliners, with a range of about 2.400 kilometers, the top speed was greatly increased to about 800 kilometers per hour. Even though the Comet was the first commercial airliner, it did not have as much of an impact, as a set of faults in the design of the aircraft led to lost confidence in the airplane (BBC, n.d.). In the late 1950’s other jet aircraft models came to the market, many of which had greater range, more seating capacity, and flew faster; the two models that most other airlines decided to use were the Boeing 707, of which 855 were built, and the Douglas DC-8, of which 556 were built (Smithsonian National Air and Space Museum, n.d.).

With these new aircraft now in service, airlines were now able operate routes regulated by the U.S. Civil Aeronautics Board non-stop, leading to a major shift from a linear route network and transitioning to a network made up of a collection of point to point routes (a point to point route is a route that operates non-stop between an origin and destination, not requiring passengers to take a connecting flight in between). Looking at this change more

visually, figure 3 below shows United Air Lines' route network in 1966, where many contrasts can be made from the route network from 1940 in figure 2. The most noticeable being that almost all linear routes, with the exception of a few, have all disappeared in favor of the longer point to point routes. Second, there is more than just one transcontinental route, as was the case in figure 2 from 1940, as there were around ten in figure 3 from 1966 due to this increased range that jet aircraft offered. Third, destination options were limited if you didn't live in a large metropolitan area; as an example, if a customer wanted to take United Air Lines from Tampa/St. Petersburg/Clearwater in western Florida, they only had two options for destinations, those being Atlanta and Miami/Fort Lauderdale. While there are other destinations served from Atlanta and to a lesser extent from Miami/Fort Lauderdale, these other flights to other destinations were not well connected as they required very long layovers or even an overnight stay.

Figure 3: United Airlines' Route Map from 1966



Source: Airtimes (2018).

But as the route networks changed, it did not happen without a new set of pluses and minuses when it came to the effects of the new point to point networks, both for the airlines and for the passengers. The main disadvantages to a point to point network laid more with the airline than with the passenger. The most notable disadvantage was that since point to point flights operated between two airports, mostly on a non-stop basis, with little to no ability to connect on to further flights to other destinations, there was little opportunity to get to a destination that wasn't connected directly with a non-stop flight from a passenger's home airport; however that's not to say that airlines didn't have concentrations at larger cities (for example United Air Lines in Chicago, New York, and Washington D.C.). Another disadvantage of the point to point network was the fact that a dichotomy existed for airlines; either to serve many routes with a lower number of frequencies (a frequency is the number of roundtrips operated by an airline per week on a

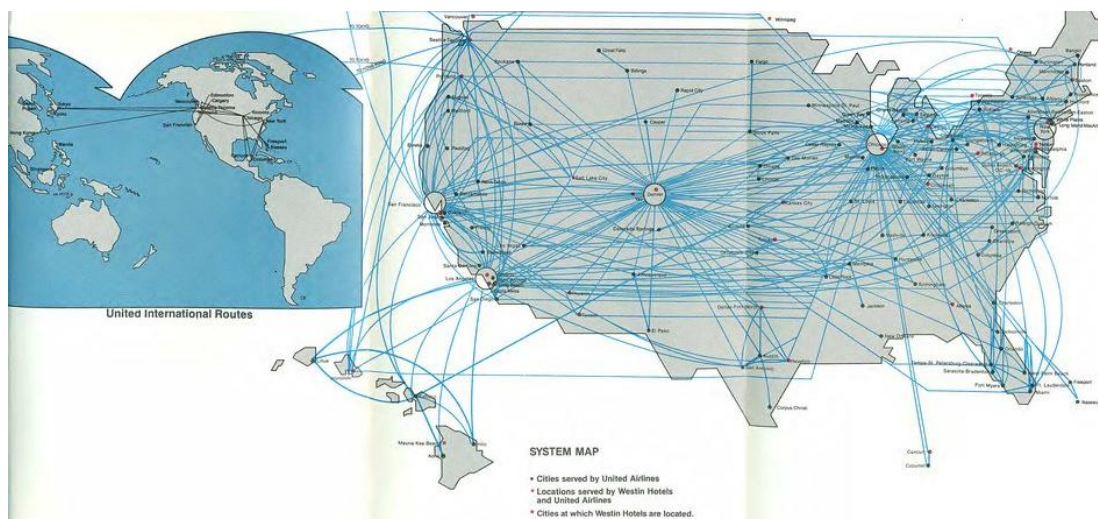
specific route) or to serve fewer routes with a higher number of frequencies. Of course, this also depended on the number of aircraft a company had at its disposal; if an airline were to increase the number of aircraft in its fleet, then it would be able to add to the number of routes it served or to the number of frequencies that it operated on its existing routes. With that being said, the point to point network also required more aircraft to serve more destinations than other route network structures (explained more in detail later). The final disadvantage is that when an aircraft flies a point to point route, all of the passengers onboard that aircraft have the same origin and destination which are the departure and arrival airports of that flight; this is because the flight is non-stop and does not connect from or to other flights at either the departure or arrival airport; in the linear model, passengers with different origins and destinations shared the same airplane, as they boarded and disembarked the airplane at different points, while sharing some of their flights with passengers that had different origins and destinations. “The point-to-point model was very “popular” in the United States before air travel became deregulated in the late 1970s. Since the government controlled the routes that airlines flew before 1978, many airlines flew direct, small-demand routes between small cities. This means that many flights weren’t completely full, driving seat mile costs and ticket prices up” (McDermott, 2017).

Even though the disadvantages seem quite strong, there were a couple of advantages that came with the point to point network structure. The most recognizable advantage is that of all the network structures, the point to point route structure will get a passenger from their origin to their destination the fastest, due to the passenger only having a single flight without having to make stops or change planes at an intermediary airport. Which leads to the other main benefit of the point to point network structure, that being the non-existence of requiring passengers to take a connecting flight to get to their destination. While this is related to the previous advantage, it is more important in terms of how an airline manages and makes decisions about its flights; if a flight is delayed in a point to point network, then the subsequent flights operate just with a delay, however if the flights are operating in a hub and spoke network structure (more details later) and rely on flights being connected at a central airport, then when delayed and cancelled flights occur, airlines will have a mess when trying to get passengers to their destination, as this reliance on connectivity will possibly strand passengers at airports or lead airlines to have to delay other flights that normally wouldn’t need to be delayed.

Just as when there was a technological advance with new jet aircraft that allowed airlines to utilize a new network structure (i.e. the point to point network structure), so did the creation of new wide body (an aircraft with two aisles and at least eight seats across in a row in economy class) and other higher capacity aircraft which forced airline deregulation in 1978 and a shift to the highly efficient hub and spoke route network structure. This push for larger capacity aircraft with lower costs was spearheaded by Pan Am’s CEO Juan Trippe. “Trippe put the notion to his old friend Bill Allen, the boss of Boeing, saying he

wanted a jet 2 1/2 times the size of the 707. It was a staggering request given the development cost of the 707. And Trippe didn't stop with size. Pam Am was operating the 707 with a seat-mile cost, at best, of 6.6 cents. Trippe set for Boeing the goal of reducing that 30%" (Branson, 1998). As a result of this challenge, the first ever wide body aircraft was born, the Boeing 747, which happened to be designed by Joe Sutter, a Slovenian-American who led the 4.500 member design team at Boeing, and was referred to as the "Father of the 747"; the aircraft was introduced in 1969 and made its first commercial flight in 1970 with Pan Am (Slovenska tiskovna agencija, 2017). The development of the 747, and subsequent other high capacity aircraft, really put US legislators on notice that deregulation would be needed in the coming years as a result of these higher capacity aircraft, which had lower per seat mile costs (the average cost of an aircraft to fly one passenger one mile), but while having a higher total cost due to the overall larger size of the aircraft and corresponding operating costs. As these larger aircraft could only make a profit if they were mostly full, it was imperative that deregulation take place so that ticket prices could be lowered and demand would rise to fill these aircraft (Vietor 1990).

Figure 4: United Airlines' Route Map from 1985



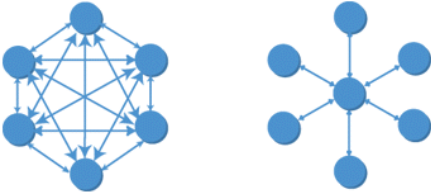
Source: United Airlines And Travelling (2019).

While deregulation helped with the flexibility and lowering of ticket prices, the most imperative part of deregulation was the liberation of which routes airlines could operate on the U.S. domestic market. If airlines were still required to fly point to point routes on lowly demanded routes, most airlines that ordered the new higher capacity aircraft would not have survived as there would not have been enough passengers to fill these airplanes without tapping into the effect of having connectivity between flights. This is why the hub and spoke network structure was introduced by airlines shortly after deregulation took place in 1978. The hub and spoke network is present among most of the world's legacy/network carriers (for example, United Airlines, Lufthansa, Air France, etc.), in order to capture passengers, who do not have a non-stop flight from their origin to their

destination, by flying them to the airline’s hub airport, where other flights will arrive with passengers going to the same destination and combining them into one connecting flight to their common destination. This led to airlines concentrating their operations at one or a couple of major airports, called hubs, where their flights would fly between their hubs and destinations, usually multiple times per day, to increase the connectivity effect. This can be seen in figure 4 in United Airlines’ route map from 1985, after deregulation had already taken effect. As it can be noticed, United Airlines set up hubs in Chicago, Denver, Los Angeles, San Francisco, and to a lesser extent in New York.

The efficiency and advantages of the hub and spoke network structure can be seen through a couple of key factors. The first being that this system allows an airline to serve more city pairs than it would be possible with a point to point network, since for each destination that an airline wants to serve, it only needs that destination to be linked to its hub(s) and not to every destination in the airline’s network. Related to the first advantage, the second advantage of the hub and spoke system is that with the same amount of aircraft, an airline can operate more city pair frequencies via its hub, than it can by operating a point to point network, due to the fact that all flights are either arriving to or departing from the airline’s hub, instead of having to fly between every city pair. Looking below at figure 5, these two advantages are well demonstrated; in the point to point network, if an airline wants to connect all six cities, hypothetically at the same time, it would need fifteen aircraft, whereas with a hub and spoke network, that same airline could connect all six cities with just six aircraft. Since an airline would need only six aircraft instead of fifteen aircraft for one frequency to each of the six cities, the airline would be able to operate two and a half times more frequencies than what could be accomplished under the point to point network. In addition to serving more destinations with more frequencies and with fewer airplanes, an airline would also get more passengers, as having more frequencies means giving more flexibility to passengers, especially those who have to travel at certain times of the day or certain days of the week; an airline would also get more passengers because of the fact that every flight in a hub and spoke system carries passengers not just from one city pair, but from multiple city pairs as the airline connects them together at their hub. To summarize this, “With a hub, airlines are not only able to fly passengers from A to B, but also from A to C. This hub system gains airlines more passengers in total, but also on each flight. And of course, a full cabin is the best for the airline financially” (Van Donselaar, 2020).

Figure 5: A Generalization of a Point to Point Network (left) and a Hub and Spoke Network (right)



Source: McDermott (2017).

However, even though the hub and spoke system can have many advantages when it comes to load factors, aircraft utilization, and as a result improved financial results, there are some downfalls when it comes to having all of these flights connected at the airline's hub. If an airline's flights all operate as planned and on time, then there are very few disadvantages to the hub and spoke system, such as passengers getting to their destination faster in a point to point network, due to the presence of only non-stop flights (if there is one for that city pair) as opposed to needing to catch a connecting flight at a hub. Unfortunately, the reality is that an airline is highly likely to see some sort of delay regularly, whether it is caused by airport congestion, air traffic control restrictions, or weather. When these delays do happen, it then will lead to one of two outcomes; the first being that passengers on a flight that arrives late into the hub airport, who have to catch a connecting flight, will set off a domino effect of the airline delaying the connecting flight so that those passengers can get onto their second flight, with this process possibly repeating throughout the day if there is not enough time between flights. The second possibility is that the airline chooses not to delay a connecting flight for passengers that arrived late into the hub and strands them at the airline's hub for a couple of hours or even overnight, which would lead to extra costs for the airline in terms of hotel costs and if necessary, transportation costs. While the hub and spoke structure has its pluses and minus, just like the other network structures, it was the airlines that didn't transition from the point to point structure to a hub and spoke system who mostly went bankrupt or were absorbed by competitors, with a few exceptions such as Southwest Airlines, as they didn't take advantage of the efficiencies that the airlines using the hub and spoke system did.

Even though that in the previous pages, this dissertation used the case of deregulation of the aviation industry in the United States as an example of how route network structures, as well as airline business models, were created and evolved over time, it is important to note that this trend continued all over the world; "The deregulation of the US domestic airline industry in 1978 was the precursor of similar moves by most other developed economies in Europe (beginning 1992–1997), Canada (beginning in 1984), Australia (1990) and New Zealand (1986). The argument was that the industry was mature and capable of surviving under open market conditions subject to the forces of competition rather than under economic regulation" (Gillen & Morrison, 2005). Nevertheless, since Slovenia is in Europe and has been a member of the European Union since 2004, it is important to take the example of what happened in the United States in 1978 and relate it more specifically to what happened in the European Union (known as the European Community from 1993 until 2009) between 1992 and 1997 when it performed its very own deregulation of its domestic aviation sector.

Although the United States was the forerunner and set the example of how airline deregulation can work and lead to higher consumer surpluses and efficiencies for the industry as a whole, it is important to highlight some of the differences that occurred during European Union's deregulation; this situation prior to deregulation, was slightly

different in the United States, as the process of deregulation itself was carried out differently, and the resulting business environment was also slightly different. Looking at the aviation sector in Europe before deregulation, it did not exactly consist of airlines flying a collection of point to point flights, as was the case in the United States; “In Europe, the liberalisation started under very different socio-economic and (aero)political circumstances. In each EU-member state, a state-owned national airline already operated a starburst international and intercontinental network at its national home base. However, most of these networks were not hub-and-spoke networks in a strict sense as temporal coordination of the flight schedule was lacking at those home bases (Burghouwt & De Wit 2005). The national airline was the designated carrier for the bilateral air service agreements concluded between that individual state and other states inside and outside Europe” (Burghouwt, Mendes de Leon, & de Wit, 2015). This quote highlights two key elements in Europe that existed, which ended in a different deregulation process and result; first that Europe is made up of sovereign states that still had authority over its airspace and aviation industry, where as in the United States this was controlled by the federal government (not the individual fifty states), and second being that each EU country had a state owned flag carrier that it wanted to protect as much as they could, something that didn’t exist in the United States.

As previously stated, the process of airline deregulation in Europe took a different course than that of the United States. This was attested to the fact that there was “...a bitter clash between countries like Britain, which favored liberalization, and others, including France and Italy, which resisted change” (Cohen, 1992). Through negotiations, “the EC countries exacted a compromise on air travel regulation. Some of the countries had favored total marketing freedom, i.e., deregulation, as soon as possible. Others wanted more time to protect their domestic routes. As a result, a four-year transitional period was agreed upon to satisfy both sides, meaning that 1997 will mark the start of total deregulation in EC countries” (Adler, 1992). However there was one major change that happened immediately on January 1, 1993, which was that governments would no longer regulate fares and pricing, instead allowing airlines to be able to set their own prices for airline tickets. Once the four year transition period ended, airlines were able to fly to and from any two airports in the European Union; also at this time national flag carriers began operating in a hub and spoke network structure as a result of having restrictions lifted on not only where an airline could fly to, but also how often. While this is similar to what occurred to the major network airlines in the United States after deregulation, there was another type of airline (which wasn’t that widespread in the United States) that was just starting to get its wings in Europe and was greatly boosted by deregulation, of course this was the segment of low cost airlines; the low cost airlines now were to be treated equally with that of the national flag carriers that were being protected for decades.

As it can be seen, deregulation of the aviation industry played a pivotal role in shaping the airlines and airports that are present today. While the route network structures all seem to

be quite different, whether they were in the United States or Europe, it is important to note that they all have their distinct advantages and disadvantages, and that these play greatly into the type of business model that an airline uses, which will be laid out later in this dissertation.

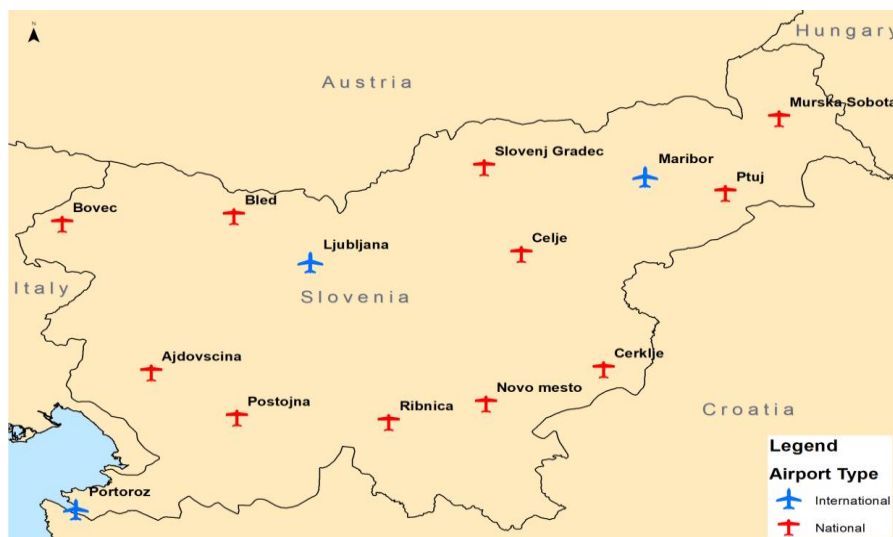
1.2 Background of Aviation in Slovenia

This section sets the background for the aviation industry in Slovenia from its beginnings in the early twentieth century up to the present day; it looks at the different airports that have the ability to handle commercial aircraft. After that, a short history of Adria Airways, the former national flag carrier, will be detailed, due to its importance and significance to the aviation industry in Slovenia.

1.2.1 Slovenian Airports

As Slovenia is a relatively small country in terms of area, the need for many international airports able to accept commercial flights is not necessarily needed, thus there are only three airports that are setup to handle international flights, those being Ljubljana's Jože Pučnik Airport, Maribor's Edvard Rusjan Airport, and Portorož Airport; these are not the only airports as there are about a dozen other smaller airports across the country with grass and asphalt runways that cater to small private aircraft, as it can be seen below in figure 6.

Figure 6: Airports in Slovenia

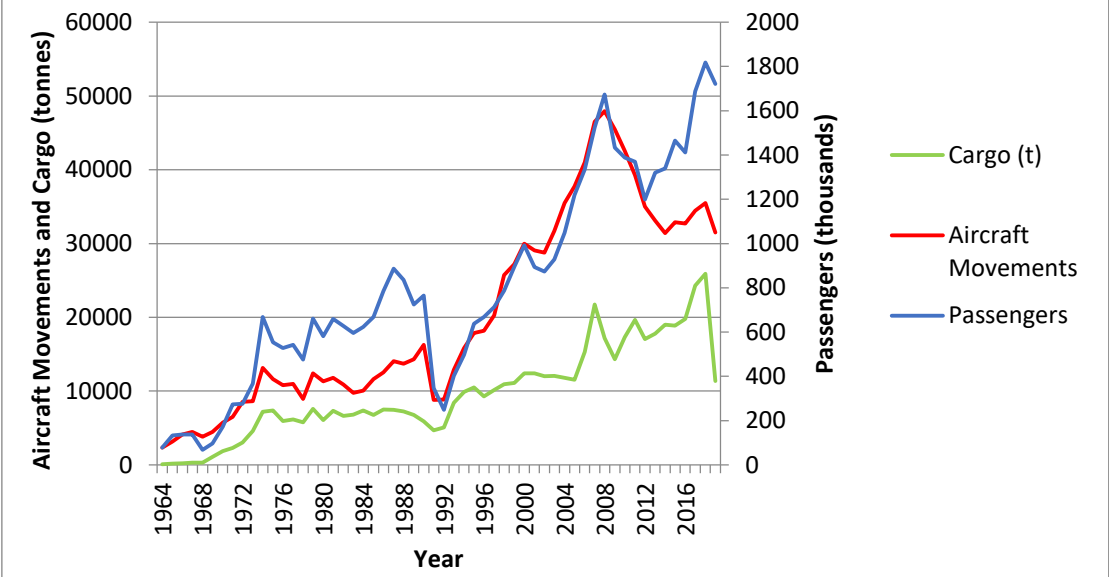


Source: Own work.

Ljubljana's current airport was not its first airport; in 1933 its first civil aviation airport opened with a grass runway over what is now Letališka cesta in Ljubljana's Moste district. However this airport only handled commercial flights for thirty years as it was unable to handle newer aircraft that were developed with the progression of the aviation industry.

The airport did not close immediately though, as it was used as a recreational airport from 1963 until its closure in 1979, when it was converted into its current state as the Moste industrial zone; the former airport control tower and an airport hanger are still present today (BTC Company, 2019). As mentioned, the Moste airport was not able to handle the new aircraft that were prevalent in the aviation industry, so in 1963 a new airport was opened in the village of Zgornje Brnik, with the first aircraft being an Adria DC-6B on December 24th, 1963; since that time the Brnik Airport became Adria’s hub. In figure 7 below, it can be seen that as years progressed, the airport continued to grow due to a combination of Adria continuing to expand its flights across Europe, a few flights being operated to North America, increased flights from foreign airlines, and regular cargo flights. This trend continued until 1991, when Slovenia declared independence, which caused the airport and Slovenian airspace to be closed from June 26th, 1991 until February 1992; most flights to other cities in Yugoslavia were also now severed due to political reasons, hampering the airports traffic for a couple of years. The airport, which was renamed to Ljubljana Jože Pučnik Airport in 2007, had its traffic numbers recover from its losses, setting a record for passenger traffic in 2008 until it began to feel the effects of the global crises that plagued world economies for several years. Again the airport recovered from these losses as tourism and business traffic was fueled by a flourishing economy leading to another record year for passenger traffic in 2018; however this record breaking traffic would be short-lived due to a void that Adria Airway’s presence left when it stopped operating in 2019 (Fraport Slovenija, n.d.).

Figure 7: Ljubljana Airport’s Traffic Figures from 1964 to 2019



Source: Fraport AG (n.d.); Fraport Slovenija (n.d.).

Maribor’s airport, which was renamed in 2008 to Maribor Edvard Rusjan Airport, after the aforementioned Slovenian pioneer aviator, first opened to commercial flights in 1976. However it has never really seen a sustained presence of airlines operating regular flights

to its airport like at Ljubljana's airport; airlines such as Adria, Jat Airways, Ryanair, and VLM Airlines, all performed scheduled flights to the airport over the years, with its busiest year being in 1990 recording about eighty thousand passengers, but unfortunately has since now been without any scheduled flights and is now used for training purposes (DRI upravljanje investicij, d.o.o., n.d.).

The Portorož Airport first opened in 1962 and came into its current state in 1971 when the municipality of Piran approved the building of the airport, but it was not until 1980 that it became a commercial international airport. Since then only small aircraft with less than ten seats have flown to the airport (with some exceptions), as the runway is quite short and cannot handle large jet aircraft at this time (Aerodrom Portorož, n.d.). Even though the airport does not have any commercial flights, it still had over twenty five thousand passengers in 2017; the largest shareholder of the airport is holding talks to have the runway lengthened to handle larger aircraft in order to see commercial flights materialize (EX-YU Aviation News, 2018b).

1.2.2 Adria Airways

Adria Airways was the national flag carrier of Slovenia and was a well-respected brand in the former Yugoslavia due to the fact that it is the second oldest airline in Yugoslavia (when considering Aeroput, Jat Airways, and Air Serbia as being one continuously operating airline), as it was founded in March 1961 as Adria Aviopromet; by comparison, Croatian Airlines (then known as Zagal – Zagreb Airlines) was founded in 1989, and a number of other airlines in the former Yugoslavia were founded in the 1990's (Airline History, n.d.). Aeroput provided the first commercial airline service for Slovenia, flying to Zagreb and Sušak (Rijeka) six times per week from Ljubljana's Moste Airport in 1933; it later in 1934 added flights to Klagenfurt as well as other destinations that were served via Zagreb and Sušak in a linear route structure (Mulder, 2010).

Adria was founded as a charter airline flying passengers, originally flying from Zagreb Airport, and then from the newly opened Ljubljana Brnik Airport in December 1963. Flying to various leisure destinations, it built a reputation as being one of the most reliable charter airlines in Europe. In the 1980's Adria slowly began flying scheduled flights with its first route being Ljubljana-Belgrade-Larnaca; with scheduled flights continuing to be added to Adria's timetable since the 1980's, it soon saw its business model shift drastically from dominantly flying charter flights to that of schedule flights, as an effect of Slovenia declaring independence in 1991. Since Slovenia was now independent, Adria was no longer able to operate charters to destinations that were in Yugoslavia; this resulted in 90% of its revenue share coming from charter flights and shifting to that of 70% coming from scheduled flights in early 1992. Through the 1990's and 2000's Adria transitioned from having narrow body airplanes, which are more useful for charter flights, to smaller regional jets, which are more tailored for scheduled flights for a market the size of Ljubljana. Due

to its focus shifting to scheduled flights, Adria cooperated more with international airline partners, such as Lufthansa, to help sustain its business and in 2004 joined the largest airline alliance in the world, Star Alliance (Adria Airways, n.d.-a). In early 2016, Adria was privatized after the Slovenian Government sold the airline through a recapitalize and sell process to 4K Invest, a German turnaround investment fund (STA, 2016).

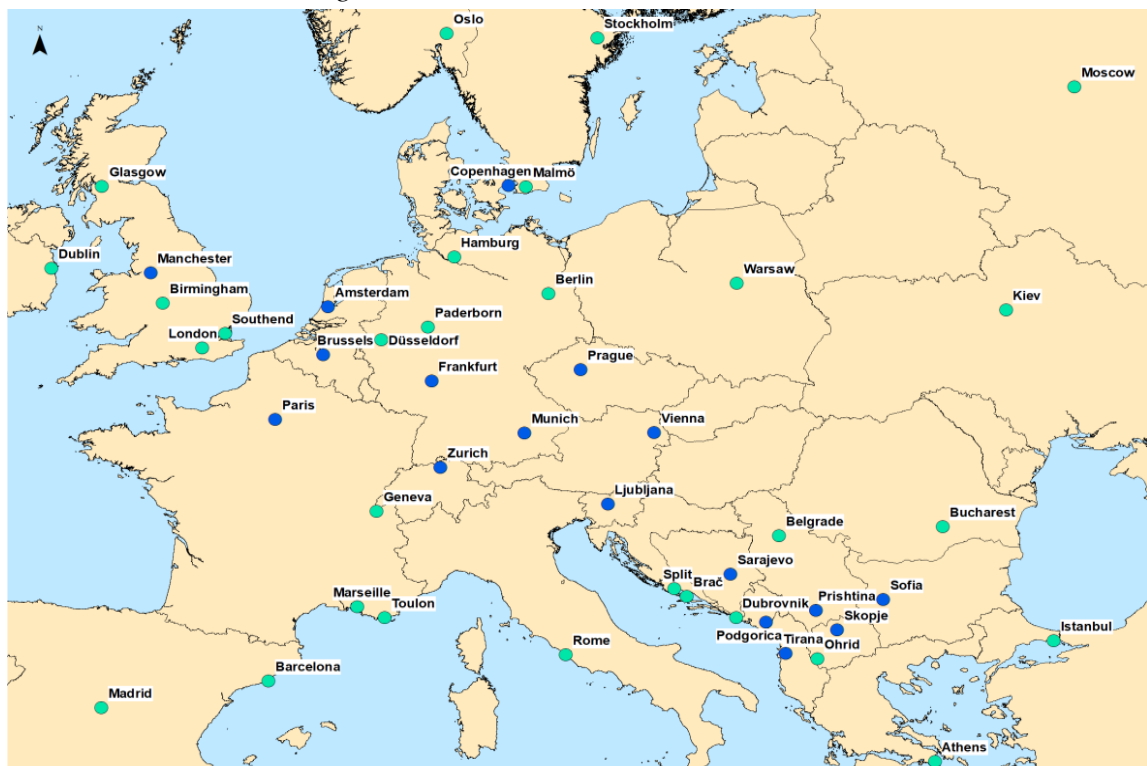
Adria Airways declared bankruptcy On September 30, 2019 and at that time had a fleet of 20 aircraft with four different types of aircraft making up their fleet. The largest aircraft they operated was an Airbus A319 (A319) which they have three of and had between 142 and 144 seats, depending on the specific aircraft; the next largest aircraft they had was the Bombardier Canadair CRJ-900 (CR9), which they had nine of and had between 90 and 86 seats, depending on the specific aircraft; Adria also had a smaller version of the CR9, the Bombardier Canadair CRJ-700 (CR7), which they had two of and had between 72 and 70 seats, depending on the specific aircraft; lastly, the smallest aircraft they had was the Saab 2000 turboprop aircraft, which they had six of and had 50 seats (“Adria Airways”, 2020). The different models and sizes of these aircraft allowed Adria the flexibility of being able to deploy larger aircraft on certain routes that had higher demand, while sending smaller aircraft on routes that had less demand, resulting in higher load factors and thus maximizing profit margins on specific flights on certain days.

Adria Airways operated a majority of its flights to or from its main hub at Ljubljana’s Jože Pučnik Airport; during the 2018 summer season, the number of weekly flights that Adria planned to fly from Ljubljana was 209, which was a 22% increase compared to the 2017 summer season. This increase was due to a combination of Adria flying more frequencies on its existing routes and introducing seven new routes: Brač, Bucharest, Dubrovnik, Dusseldorf, Geneva, Hamburg, and Sofia (EX-YU Aviation News, 2018a); however all of these routes, with the exception of Sofia, were discontinued due to operational and commercial reasons within a year of being launched. In addition to Ljubljana, Adria also operated flights from Pristina’s “Adem Jashari” Airport, which was Adria’s secondary hub; one of the three A319 aircraft was based there and operated flights from Pristina and Tirana, to Munich, Frankfurt, and Malmö. Figure 8 shows the extent of all of the destinations that Adria Airways ever flew scheduled flights to (with the exception of Larnaca and Tel Aviv), with all but one of the destinations being in continental Europe.

As mentioned earlier, in 2004 Adria Airways became a member of the world’s largest airline alliance, Star Alliance. This was a great achievement for Adria, as it allowed Adria passengers to connect onto other Star Alliance airlines’ flights to reach destinations that Adria did not fly to; in addition, Adria passengers who were enrolled in their frequent flyer program, Miles and More, were able to collect miles on Star Alliance airlines’ flights as well as use them for free flights and other benefits on flights operated by Star Alliance airlines. Prior to joining Star Alliance, Adria was a partner with Lufthansa since 1996 (Adria Airways, 2017).

In July 2017, Adria Airways purchased Darwin Airline, a Swiss regional airline that had hubs in both Geneva and Lugano, with its main corporate headquarters being in Lugano. Prior to the purchase, the airline operated as Etihad Regional and was partially owned by Etihad Airways of the United Arab Emirates. At the time of Adria's purchase, Darwin Airline had 6 Saab 2000 turboprop aircraft with a capacity of 50 seats and 4 ATR 72-500 turboprop aircraft with a capacity of 68 seats. The ATR 72-500 aircraft were operating routes under contract for Alitalia, whereby for a set price Darwin Airline operated the routes supplying aircraft, flight crews, maintenance, and insurance (this type of a contract is called and ACMI contract); all other costs associated for these flights were paid by Alitalia. The flights that were in Darwin's scheduled flight network flew to mostly leisure destinations on a seasonal basis; at the end of the summer 2017 season, these destinations included Biarritz, Brest, Brindisi, Cagliari, Geneva, Ibiza, Lugano, Olbia, and Rome. However by December 2017, Darwin Airline declared bankruptcy, ending Adria's short stint of owning the Swiss airline ("Darwin Airline", 2019). Following many commercial and operational troubles, Adria Airways struggled through 2018 with flight delays and cancellations beginning to severely affect the company's financial situation; this trend continued and progressively became worse in 2019, which led to Adria Airways declaring bankruptcy in September 2020 and ultimately to the liquidation of the company and its assets ("Adria Airways", 2020).

Figure 8: Adria's Scheduled Destinations



Note: Destinations at the time of bankruptcy (in blue) and all past scheduled destinations (in turquoise); not pictured Tel Aviv (blue) and Larnaca (turquoise).

Source: Adria Airways (n.d.-b); own work.

2 THEORETICAL BUSINESS MODELS AND TYPOLOGIES

In this section of the dissertation, the importance of business models and the theory behind business models and their typologies will be investigated. All of these business models are, in one way or another, already being used in the aviation industry. They are broken up into two typologies, those that revolve around a product or service that is being offered to its customers and the other being those that are associated with the method of selling that product or service to its customers. These business models will first be defined, then an example will be given of how they are used in a non-aviation business, and finally an example of how they are utilized in the aviation industry.

2.1 Importance of Business Models

Business models play a critical role today in defining what the purpose of a business is and how it goes about accomplishing that purpose; it lets people outside of a company know how the company plans, operates, and executes its business activities without going into every little detail. The term business model really started to gain traction and become a buzzword during the dot com era in the late 1990's and into the year 2000, with the tech bubble burst. Before the crash, web based companies were popping up faster than people could keep track of them, and were listing their companies on stock market exchanges with initial public offerings (IPO). With so many companies being listed, it was at first difficult for potential investors to sift through the hype of these new companies to identify which companies had real value and which ones were more of a pipe dream; investors incorrectly assumed that the most important part of the company was that it was internet based with a corresponding business model that had the prospect of being profitable. "In the late 1990's the mere naming of companies as 'dot-com' was enough to signal that the business model of the company was potentially profitable or at least attractive for investors. However, after the tech stock crash, analyst and investor behaviour changed so radically that signaling dot.com had the opposite effect. In a blow, it was no longer viable just to imitate an Internet-company business model. Now profit generation is required regardless of one's distribution channel. This led to several authors stating that the profit-formula should still be a central feature of the business model" (Nielsen & Lund, 2014). This shift of having a business model identify with its industry peers to one that centers on profit directly corresponds to that of the definition that Professor Allan Afuah wrote in 2004 (just after the dot com crash) that is in the introduction of this dissertation and says, "A business model is a framework for making money. It is a set of activities *which* a firm performs, *how* it performs them, and *when* it performs them so as to offer its customers benefits they want and to earn profit" (Afuah, 2004).

Business models are also important, not to just see that a company will make a profit and how they plan to do it, but also as a means to compare it to other companies in the same industry as well as companies in other industries. One of the ways to do this is to use a

common platform or structure, looking at different aspects of companies in a consistent manner. One of the most important platforms that is able to do this type of analysis is with Dr. Alexander Osterwalder and Dr. Yves Pigneur's Business Model Canvas. "The Canvas Business Model can be used as an aid for developing a new, or analysing and mapping an existing business model of a company. It gives a graphic representation of a number of variables that show the values of the organisation" (Mulwijk, n.d.). The canvas is made up of nine building blocks which are then categorized into the four main business areas of customers, offer, infrastructure, and financial viability. Starting with customers, this business area has three building blocks; "customer segments" identifies which customers a business serves, "channels" shows in which manner customers receive their product or service, and "customer relationships" describe how a company interacts and connects to its customers. Looking at the offer business area, there is only one building block, that being "value proposition" which seeks to solve customer problems and satisfy customer needs. In terms of the infrastructure business area, there are also three building blocks; "key resources" are the assets needed to make the business model work, "key activities" are critical actions that must be done for the business model to work, and "key partnerships" refer to the suppliers and partners that are needed to make the business model work. Finally the financial viability business area is made up of two building blocks; "revenue streams" is the income that is generated by value propositions that are sold to the customer segments and "cost structure" is the total cost of operating the business model. The Business Model Canvas and its building blocks are very important and are used around the world by corporations, consultancy firms, government owned enterprises, and others (Osterwalder & Pigneur, 2010). While the canvas will not be used to describe the different business model typologies in section 2.2, it will be used to analyze the different aviation business models in section 3 of this dissertation.

2.2 Business Model Typologies

This section of this dissertation is where the individual business model typologies will be defined, explained, and then applied in today's business world, with examples both inside and outside the aviation industry.

2.2.1 Product/Service Based Business Models

The following seven business model typologies are grouped together because they are ones that revolve around a product or service and/or their characteristics. In addition, these business model typologies can explain why the specific product or service is valuable or what makes it distinct from others.

2.2.1.1 Network Effect Business Model

The network effect business model, sometimes incorrectly referred to as the network externalities business model, is one that is usually used to describe technology that is incompatible with its competitors or peers. “The network effect is a phenomenon whereby increased numbers of people or participants improve the value of a good or service” (Banton, 2019). The sense is that if a person using a product or service that has more options or opportunities to be used with other people using that same product or service, it will have a higher value than the same, or a competing, product or service does with fewer options or opportunities.

There are limitless examples of this business model, however a simple example could be that of when the telephone was invented and was just starting to be used. At first when Alexander Graham Bell invented the telephone, he only had one other telephone to call, limiting the value in obtaining and having a telephone. But as more and more people began to purchase, install, and use telephones at home, the value of having and using one grew greatly as the options and opportunities to call and communicate with other people who had a telephone increased. Another way to demonstrate this business model could be by that of a bank’s ATM network; say two banks are identical in every way, except when it comes to their network of ATMs. Bank Y has only one ATM for customers to use to withdraw money, check their balance, and others, while Bank Z has one hundred ATMs for its customers to use. Bank Z would be seen as having a higher value due to the fact that its customers would have more options and opportunities for its customers to find and use an ATM when they need to, thus realizing the network effect benefits from having a much larger ATM network.

The same concept can be seen in the aviation industry; when reading the statement “Network effects are the incremental benefit gained by an existing user for each new user that joins the network” (Johnson, n.d.), one can think of existing users as individual airports in an airline’s network, with the customers at each of those airports getting an additional benefit for each new airport that that airlines connects them to. As an example, Airline T which only flies between Airport A and Airport B will have a relatively low added value compared to Airline M which flies between Airport A and Airport B, and also flies between Airport B and Airport C. Airline M would not only be able to serve customers wanting to travel between Airport A and Airport B, but it would also be able to serve customers that want to fly between Airport B and Airport C and customers that want to fly between Airport A and Airport C (via Airport B). This example demonstrates exactly how legacy/network carriers operate as airlines. The more airports/destinations that an airline flies to, the more added value an airline offers its potential customers; this is even more true if the airline is able to connect all of its destinations at one or a couple of hub airports. However, an airline needs to carefully select destinations that have sufficient demand and that would be able to capitalize on the network effect benefits and synergies.

2.2.1.2 Premium/Ultimate Luxury Business Model

The premium business model and the ultimate luxury business model are synonymous terms as they both revolve around selling small quantity products with high margins, as opposed to more mainstream business models of selling high quantity products with low margins; furthermore, this selling of smaller quantities makes a company's products more exclusive which helps embrace its luxury status among those who can afford them. To elaborate more on this, "The luxury business model is almost entirely different from any business model out there. It does not aim to convince customers to purchase its products through traditional channels, such as heavy marketing, substantial discounts, or affiliate marketing. They aim to attract customers by doing the exact opposite: building exclusivity and resisting the urge to respond to rising demands. In other words, building a wall that only the worthy can climb" (Business Matters 2020). It is also this very notion of exclusivity that gets the average person, who cannot afford such luxury products, to dream of being able to own such products and services someday, thus further strengthening their brand and for gaining potential future customers.

As there is some type of premium/luxury product or service in most industries around the world, there are a plethora of examples that can effectively demonstrate this business model. Looking at the automobile industry, there are two types of luxury brands that employ the premium/ultra luxury business model, those being car manufacturers that sell an extremely limited supply of a few select automobile models and those that sell many different automobile models at a higher price than the average automobile costs. The first example can be demonstrated by Bugatti, an ultra luxury car manufacturer that sells/delivers less than one hundred cars every year to very wealthy customers who pay at a minimum a couple million euros for a single car, which helps protect the brand by only having people with a high net worth being able to afford them. The second example can be demonstrated with BMW, who has a wide portfolio of automobiles that range from under thirty thousand euros to hundreds of thousands of euros, with BMW trying to have a model that fits all types of people's lifestyles with above average incomes, while also having some entry level models to try and lure potential new customers.

In almost every legacy/network airline, the premium/ultra luxury business model is being used through the use of its first class and business class cabins on flights and all of the pre-flight and post-flight amenities that go along with it; following the basic concept of this business model, first class and business class are limited in supply and generate very high margins, comparing that to economy class which has a large supply at very low margins. Looking at the example of the luxury automakers above, airlines also kind of follow this type of pattern. There are airlines, like La Compagnie, that have only a couple of airplanes and only cater to people who can afford a business class ticket, as their aircraft only have seventy-six business class seats instead of the maximum of two hundred and forty economy seats that can fit on an A321neo; this type of airline would more correlate to the Bugatti example with an extremely limited supply and only looking to sell to individuals

that are in the upper echelons of society. Looking at an airline that tries to serve more than one type of customer, it is easy to pick any major international carrier who has multiple luxury classes on its flights, as these different classes are aimed at trying to bring in all different types of people with higher incomes onto its flights; one of the better examples of this would be Etihad Airways, which on its long haul aircraft have the standard economy class, the more premium business class, the lavish first class, and the ultra luxurious “The Residence” which is a three room apartment featuring a shower room, bedroom, living area, and personal butler among many other amenities. “The Residence” is probably the best way to exemplify the premium/ultra luxury business model as it is in extremely low supply with only one residence on each of their A380 aircraft and only flying on a select number of routes, while creating extremely high margins. The premium/ultimate luxury business model is one that historically was only being used with legacy/network carriers, but recently low cost carriers in recent years have started to incorporate this business model, however not at the extreme’s that the legacy/network carriers have been.

2.2.1.3 Loyalty Business Model

The loyalty business model is one that is quite self explanatory, where in simplistic terms a business rewards its customers for their loyalty of purchasing the business’ product or service; how a company goes about rewarding its customers can vary quite widely by industry, as some will offer this loyalty benefit in the form of discounts, free products or services, or even cash back. Explained more in depth, “The goal is to develop a relationship with customers and foster their loyalty by rewarding them with special offers or discounts. In this way, customers are voluntarily bound to the company, which discourages them from opting for competitors’ products and services and this protects the company’s revenue” (Gassmann, Frankenberger, & Csik, 2014).

Concrete examples of this business model can be seen across a broad spectrum of business industries, and that is just as true in Slovenia as it is in most countries in the western world. One such example is that of the car insurance industry; when a person in Slovenia purchases a car insurance policy from a company, assuming all factors stay constant and adjusting for inflation, that person will pay the largest amount for that first year of their car insurance with that company. This is because the insurance companies do not want drivers to continuously change from one insurance company to another due to one having a lower price and/or better coverage than the others; this is why the insurance companies offer an annual recurring loyalty discount to its policy holders, so as to entice them to not change insurance companies every time they find a cheaper price. If a person has been with one insurance company for ten years, they will feel that they have been “investing” in this company during that time and have been receiving an annual discount that they would not be able to attain at a competing insurance company; if they decide to switch insurance companies, then they would most likely have to start from the beginning with little to no loyalty discount. Another brief example is that of the loyalty card system for retail stores,

where by having and presenting the store's loyalty card when making regular purchases, the customer gets points, discounts, coupons, or store credits that can be used for purchases at any of the store's locations. Since these benefits are only valid at the store from which the customer received them, it would give little incentive for the customer to go to a competing store the next time, if they know that they can get their next purchases cheaper, free, etc. at that store.

As mentioned in chapter 1 of this dissertation, the airline industry has been using the loyalty business model since 1979 when the airlines began frequent flyer programs for their customers by giving them a set number of miles based on the distance that they flew. After enrolling into the airline's frequent flyer program, the customer would get a frequent flyer number that is unique to that airline; by providing that number to the airline before the customer flies, the airline would give the customer miles based on the distance that the customer flew on that flight. These miles would then build up over time, pending the customer would continue to fly on that airline, accruing miles in the process. Once the customer would surpass certain thresholds set in the frequent flyer program by accumulating miles in their frequent flyer account, the customer would be able to redeem those miles for free flights on the airline; the airline typically had different thresholds set for different flight lengths, with lower thresholds being for shorter intracontinental flights, and higher thresholds for farther intercontinental flights. However, just as the airline industry as a whole has been evolving, especially after deregulation in 1978, so have their corresponding frequent flyer programs. Today most airlines have been changing the way they give out miles to their customers by now tying the number of miles a customer gets to the amount of money spent on their ticket and not so much on the distance they fly (some exceptions still exist). One positive advantage that customers have gained when it comes to accruing miles is that most airlines that have a frequent flyer program tend to be in an alliance or in bilateral agreements with other airlines, which allows customers, for example, to get miles for their frequent flyer account on Airline MFM by flying on Airline FTM. As the method for accruing miles has changed from its origins, so has the way that the miles can be used; no longer are miles only used for free flights with the airline from which the customer has their frequent flyer account, but they can usually be used for free flights the airline's partner airlines, for example, using miles from a frequent flyer account at Airline MFM for flights on Airline FTM. In addition to having more options when it comes to redeeming miles for free flights, the airlines also started to offer its frequent flyers more than just free flights in hopes of luring them to redeem their miles on options that would cost the airline less than giving them a free flight. Looking briefly at United Airlines' webpage for its MileagePlus frequent flyer program, one can see that in addition to being able to get a free flight by redeeming miles, a frequent flyer can now use their miles for upgrades from economy to business class or first class for flights that they have paid for, free hotel rooms, car rentals, cruises, experiences (such as shows, sporting events, etc.), airport lounge memberships, magazine subscriptions, gift cards, dining at restaurants, and more (United Airlines, 2020). While the method of accumulating and using frequent

flyer miles is most prevalent with legacy/network carriers, low cost airlines have begun to use their own type of loyalty program; some low cost carriers in Europe offer their customers the opportunity to join their loyalty program for a year for a set price, giving them discounts for that year on flight tickets, baggage fees, priority boarding, seat assignments, and others (Smithson, 2019). This method encourages low cost carrier customers to stay with the one airline because of the initial investment they made to join that airline's loyalty program and not because of who they flew with in the past.

2.2.1.4 Add-On/Nickel and Dime Business Model

This business model has been called by two different names; depending on the author, it is either referred to as the add-on business model or the nickel and dime business model, however they are essentially the same. The main concept of this business model is quite straight forward; “This business model consists of the lowest price strategy for the basic product or service. By keeping the basic price as low as possible, an additional amount is charged for the other perks and services that are offered with the main basic service” (Business Strategy Hub, 2020). Customers who are attracted by a really low price for the base good or service who are hoping to get a good deal will actually end up paying more than they intended if they enhance the basic product or service that they were drawn to. “The Add-on business model is especially well-suited for hard-to-segment markets, where customer preferences often diverge vastly. Simply dividing products into different levels or versions is insufficient; and no optimal value proposition can be guaranteed for a large number of customers” (Gassmann, Frankenberger, & Csik, 2014). Although the add-on/nickel and dime business model sounds as if businesses are trying to get every last cent from their customers, it does however allow the customer to feel that they are only paying for exactly what they want and not for options that they don’t want.

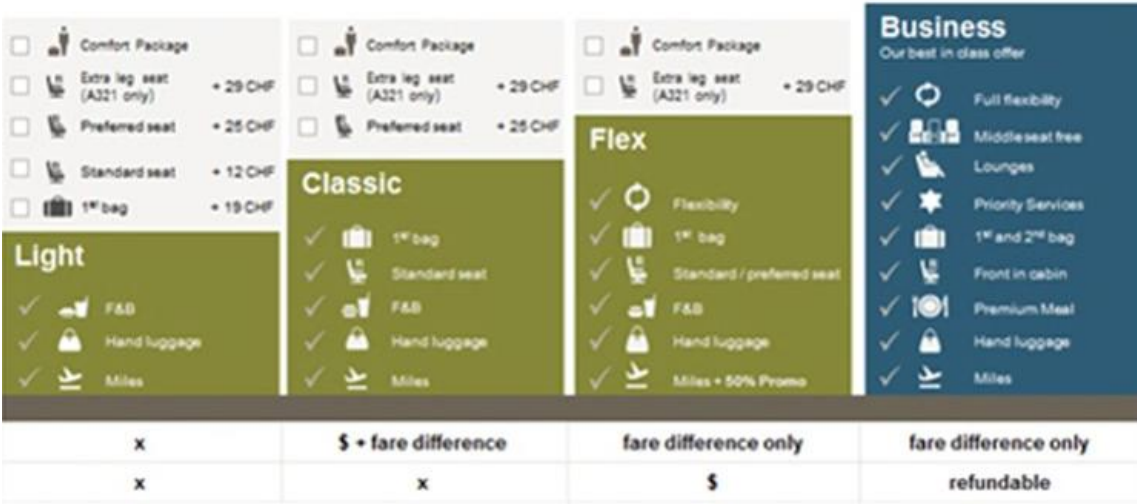
This business model can be seen across a couple of different industries, from burger and pizza chains, to software, but one probably stands out the most to the average person and is the most easily recognized outside of the aviation industry, that being the auto industry. Most people in the developed world are familiar with how cars are advertised and how the process of ordering a car is. When the auto companies advertise one of their cars in the media, they usually show the lowest possible price of that car model in order to get the public’s attention. However, typically there are a couple of different car trims that have different price levels, different engines and, depending on the trim, determine which features will either be standard or will be optional; of course the optional features that the customer may desire can be added to the car for an additional charge. The highest and most expensive trim generally has the highest performing engine with most of the features being standard, while the lowest and least expensive trim generally has the lowest performing engine, with only the bare minimum of features being standard and most of the features that are standard on the higher trims being optional. To sum it up “the basic car is cheap

but usually buyer[s] then start to add extras that make the car the one they really want to have” (Business Model Toolbox, n.d.).

The airline industry, more specifically the legacy/network carriers, is one that over a little more than ten years has really seen this business model really take center stage. In 2008 when the global recession was starting to take hold alongside record high oil prices of about one hundred and fifty dollars per barrel, airlines were in a tight spot financially; not only was the recession severely reducing the demand of airline tickets, which cut their revenues, but they were also feeling the effects of the spike in oil prices which caused the airlines’ fuel costs to skyrocket. To deal with this cut in revenues and increase in costs, the airlines were forced to bridge the gap between their higher costs and lower revenues. In the United States, one of ways airlines began to make up the difference was “by implementing additional fees for services that previously were included in the base ticket price. For example, checking baggage, selecting seats, food, and blankets are now add-on services requiring passengers to pay fees. Baggage fees alone contributed \$2.7 billion in additional revenue to the airlines in 2011. Overall, passenger fees have increased by \$19 per round-trip (from \$3 to \$22) between 2000 and 2010, according to the industry association Airlines For America. In addition to charging for checked baggage, some airlines are also beginning to charge for carry-on luggage and seat selection” (Scovel, 2012). These additional fees that airlines began to charge passengers started to be referred to in the airline business as ancillary revenues. While most legacy/network carriers in the United States imposed these fees in 2008, “Ryanair was one of the first airlines to introduce checked baggage fee charges, back in 2006, followed by check-in fees in 2009. Charges to reserve seats and hand luggage fees have also been rolled out by Ryanair over the past few years” (SendMyBag.com, 2018). Even though most airlines (both low cost carriers and legacy/network carriers) were charging bag fees, seat selection fees, and others for intracontinental flights, intercontinental were largely unaffected by these changes, with the exception of only getting one checked bag free instead of two. However in 2019, airlines started offering lower fares called economy light, economy basic, or something similar, which is what it sounds like, just a basic ticket without any services such as a checked bag, seat selection, among others that were always included. This change was not due to a slump in demand or a rise in costs, but more as a reaction to low cost carriers such as Norwegian Air Shuttle and Level offering basic no frill fares on transatlantic routes. “Many of the eye-popping low fare prices come with stringent Basic Economy guidelines. Firstly introduced in to mimic what the LCCs offered, the expansion of these fares now extends to almost all flights to Europe, even on routes not catered by a budget alternative. American, United, Delta, and their alliance counterparts have all implemented some version of these lowest bucketed fares that restrict checked bags, seat assignments, and ticket changes” (Radka, 2019). While figure 9 shows the different fare groupings for a Swiss International Air Lines flight that was within Europe, the same concept applies today to intercontinental flights, with the least expensive basic/light fare having the most services optional for an additional fee and the most expensive business class fare having pretty

much every service included; as presumed, the fare groupings in between the light and business fares progressively get more expensive as more services are included in the ticket. As mentioned this business model was first introduced with low cost carriers and has since been utilized by legacy/network carriers to help lower their lowest prices in order to compete with the growing market share that low cost carriers have been getting since their inception.

Figure 9: An Example Showing Different Fare Groupings' with Included and Add-on Services for a Swiss International Air Lines Flight within Europe



Source: O'Neil (2015).

2.2.1.5 Ingredient Branding Business Model

Of the business models presented in this dissertation, the ingredient branding business model is one that does not play an intrical part in the aviation industry, but nevertheless is used to lure attentive customers away from one airline for another airline. An easy way of explaining this business model is to think of it as a way of marketing a branded product/service as a component or “ingredient” within an entire product, hence making the entire product look more attractive than the competitions’ product/service with their unbranded ingredients. If a part of a product is made up of one or more branded products/services it is likely to be more sought after, when the price and other factors are equal, since the component’s brand combined with the main products brand would reinforce a sense quality and in some situations luxury (Getman, 2018).

An easy way of understanding the ingredient branding business model might be by looking at examples that are present today. One such example that would be recognizable for people who enjoy being in nature is that of clothing, jackets, and footwear that feature Gore-Tex; Gore-Tex is a type of waterproof and breathable material that is patented and manufactured by W. L. Gore and Associates. The company sells its materials to various

companies that manufacture and sell outdoor gear for people who will want to ensure that they will stay dry from rain and snow while not sweating from the intense physical activity that they are partaking in. Most of these companies will advertize the fact that their products contain Gore-Tex material, which reaffirm to the potential customer that their product will keep you comfortable and dry. While there are a plethora of examples, Asolo is one that uses Gore-Tex material in many of their hiking boots and advertizes it on their website by explaining, that "...the GORE-TEX® Performance Comfort Footwear lining offers optimal heat retention to keep you dry & comfortable during a wide range of conditions and outdoor activities" (Asolo, n.d.), in addition to listing the many benefits and advantages of this material being used in their boots. With this example being demonstrated, is it quite apparent that a person shopping for hiking boots is more likely to buy boots that have Gore-Tex material in them than a competing boot that does not have this material (holding price and other factors equal) due to the reaffirmation that the Gore-Tex brand stands for when it comes to waterproof and breathable technology.

While the ingredient branding business model is more important in some industries than it is in the aviation industry, airlines are always looking for different ways to get more passengers. Within the industry, this business model is utilized in a couple of different ways, whether it is Swiss International Air Lines giving its first class passengers an amenity bag created by Bally and "Various extras such as products by the Swiss luxury brand La Prairie, a cover and pillow, and pyjamas by Zimmerli of Switzerland..." (Swiss International Air Lines, n.d.), Air France sending a private Hertz DriveU driver to take its La Première passengers between Paris and Charles de Gaulle Airport (Air France, n.d.), or Austrian Airlines having Vienna based Do & Co catering create the menu for all of its passengers on its long haul flights (Austrian Airlines, n.d.). However, due to the Coronavirus health pandemic that started in late 2019 in China, and has since affected the entire world in 2020, demand for air travel has collapsed, with many flights being cancelled, and the few flights that are flying are having extremely low load factors; one of the causes for these low load factors is that people are hesitant to be in a pressurized aircraft, touching surfaces that could be contaminated by previous passengers that have/had the Coronavirus, in turn leading to other passengers catching the highly contagious virus. One way airlines are trying to demonstrate to potential passengers that it is safe to fly, is by reaffirming that their aircraft is safe. But when looking at the three major legacy/network carriers in the United States, one airline stands out in its approach to ease passengers' doubts about flying during the Coronavirus pandemic. American Airlines has rolled out its Clean Commitment program which says that they are enhancing their cleaning, adding hand sanitizers at various points in the airport, adding plexiglass to its check in and gate counters, among other things (American Airlines, n.d.-b). Delta Airlines has brought out its Delta CareStandard program, which looks very similar to that of American Airlines' Clean Commitment program, with many of the cleaning initiatives being the same, with only minor differences being noticeable (Delta Airlines, n.d.). United Airlines, took a slightly different approach on how to ensure that their passengers will stay and feel safe on their

aircraft. United Airlines, through their own United CleanPlus program, teamed up with Clorox to use the latest industry cleaning products while enlisting the experts from the Cleveland Clinic to advise United Airlines on how to best keep their passengers and employees safe; in addition to listing specifics about their cleaning process, United also has links to both Clorox and the Cleveland Clinic's websites with information regarding how to stay safe during the Coronavirus pandemic (United Airlines, n.d.). Clorox was started as the first commercial bleach company in the United States and is a leader in manufacturing cleaning products under various brands, on top of their flagship Clorox Bleach product. The Cleveland Clinic is also a leader in its own industry of healthcare, as it is seen as an innovator, one that is often cited and exemplified by both politicians and business leaders for their approaches to keeping people healthy and curing those that are ill. Looking at these three approaches, one would have to believe that with all other factors being equal, a potential passenger would choose United Airlines over American Airlines and Delta Airlines due to the fact that United Airlines is using brand recognized products from Clorox and using them effectively and efficiently according to the experts from the Cleveland Clinic. Looking at the general use of this business model and its use in the whole aviation industry, it has historically and is primarily being used by legacy/network carriers.

2.2.1.6 Solution Provider Business Model

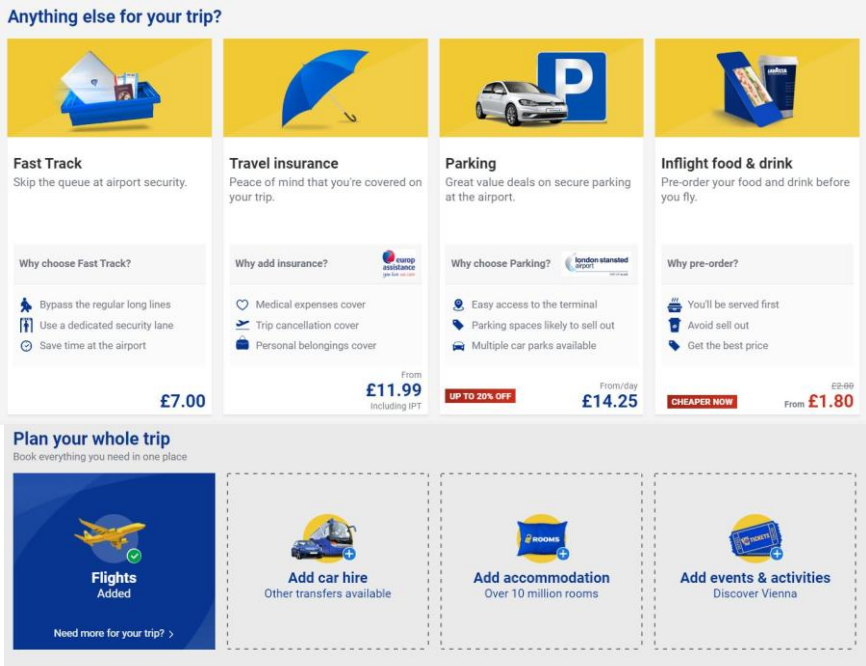
Just like the ingredient branding business model, the solution provider business model does not play a major role in the aviation industry, as the highest number of businesses using this business model come from the information technology industry. This business model centers around companies providing one-stop solutions to customers' problems or requests. Firms do this by one of two ways, or by using both ways; before companies used the solution provider business model, individuals would have to go to multiple companies to go get a multi-step solution for their problem or need, since no one company was able to fulfill it under one roof. But then companies started to realize that if they either were able bring in these external stages in house, or at least collaborate with external partners to make the process or transaction a one stop process, then companies could concentrate more on their customers' needs than to their suppliers needs, while increasing their revenues due to their involvement in more stages of the solution (Gassmann, Frankenberger, & Csik, 2014).

While the previous paragraph may seem confusing, the following examples will illustrate more clearly how this business model was developed and now works. Looking back to when the internet was still in its formative years, telecommunication companies providing internet services to business and households alike required their customers to have to purchase certain hardware in order to be able to connect to the internet. These hardware requirements, in terms of modems, routers, cables, etc, were for the premises where the internet connection was going to be fed to, in addition to the computers themselves

needing to have the proper hardware installed on them. Then the telecommunications companies realized that they could make all of this easier for the customer by providing all, or at least some, of the equipment to the customer, having it preset to work more effortlessly, rather than having to have the customer configured their own hardware to the telecommunications company's requirements. Another quick and related example is that of providing all the three major communication modes to households and business; it was not so long ago that a person or business would have to sign a separate contract with different companies that provided telephone, internet, and cable/satellite television services, as one company did not have all of these services within their product offerings. However as time progressed, telephone and internet companies began to partner with cable television companies at first to offer individuals and businesses discounts for signing up with a partner telecommunication or cable/satellite television provider; this then progressed to the next level with these companies either formally offering these three products on one bill or by the companies themselves merging into one company, creating a one stop shop for these services.

As mentioned at the beginning of this section, the solution provider business model is not so crucial for the aviation industry, as it has a limited role when it comes to attracting passengers to one airline over another; what the airlines are trying to accomplish with this business model is to get additional revenue from their customers, who are already attracted by their prices and flight offerings, by having them book all of their travel needs with their airline. Examples of these can be seen in figure 10, which shows all of the different aspects of an upcoming trip that can be booked through the airline (in this case with Ryanair) as part of the flight booking process; these aspect that can be booked can be parking at your departure airport, travel insurance, rental cars, hotels, and events at your destination. Other airlines, who do not offer this directly as part of the flight booking process, often have the ability to book many, if not most of these services somewhere else on the airline's website. In either case, the airline is getting a commission for each of these services from their partner business that they sell to their customer, a commission that they would otherwise lose if the customer would book directly with the service provider and not the airline. As an executive at Ryanair puts it, "Earlier this year Ryanair's chief marketing officer Kenny Jacobs said: 'I'd describe Ryanair as a travel retailer with a low-cost airline at its centre. When it comes to digital, you have to think like a retailer.' In the airline's vision of travel as retail, a customer has a hierarchy of needs, starting with a flight, moving through car hire, booking a hotel room and buying tickets for activities such as tour guides" (Spero, 2018). This business model is more prevalent and noticeable among the low cost carriers as many of them have these additional trip services directly integrated into their flight booking process, whereas legacy/network carriers may have a couple of these services in their flight booking process and provide other areas of their website for booking other services.

Figure 10: An Example of the Different Travel Products/services that can be Booked Along with a Flight on Ryanair’s Website



Source: Ryanair (n.d.).

2.2.1.7 No Frills Business Model

The term “no frills” has been a buzzword in the aviation industry ever since low cost carriers cemented their position amongst their legacy/network carrier peers. The concept of the no frills business model is to sell a product/service with only the absolute required components included, and charging extra for all the other optional components, in a bid to make the core product/service’s price as low as possible. Perhaps a better and more well rounded definition of this business models is, “A no-frills service or product is a pricing strategy that offers a low price that is obtained by removing non-essential features (i.e. free coffee or waiting room magazines). No-frills businesses operate on the principle that by removing luxurious additions, customers may be offered lower prices. Furthermore, companies that use this strategy, are often open about it with the intention of harnessing consumer appreciation” (Envision, n.d.-b).

Examples of the no frills business model can be seen across many different business industries; aside from the airline industry, in which it is very prevalent, the grocery retailer business is one that also has quite a no frills presence. Aldi (Hofer in Slovenia and Austria) and Lidl are two grocery retailers that use the no frills approach to how they run their businesses. Some of the characteristics that these two stores have in common are that they keep staff to a minimum to keep costs low, have close to 90% of the products in their stores be from their own private brands, which cuts out the middle company, while

reducing higher costs from those suppliers, and keeps the products in their original boxes on the shelves or pallets, lowering the time needed to restock shelves and the amount of staff needed to carry out that task. In addition, they also keep marketing activities to a minimum, have a lower selection of products in their stores, in order to concentrate on moving fewer items but at higher volumes, and even reduce the amount of lights that are in the store, relying as much as possible on natural daylight. While there are other no frills aspects that these two companies use, these examples show how this business model reduces extra staff, product selection, extra companies in the supply chain, extra marketing, and extra energy/waste all to keep costs as low as possible (Hanbury, 2017; OC, 2015).

The no frills business model is likely the one business model that can be identified as the core of how low cost carriers operate their commercial offerings to its customers in terms of seating, onboard meals and drinks, check-in and boarding procedures, and others. Any part of the flying experience that is not required by a regulation or law to be given to the customer for free is being removed, or at least is charging its customers for it; this is done for two reasons, one of them is to lower costs and the other is to raise revenues so that the low cost carriers can keep their base ticket prices as low as possible. The first known example of an airline using the no frills business model was Southwest Airlines; unlike the other legacy/network carriers, Southwest Airlines did not give its customers many of the amenities listed above (with the exception of giving their customers the ability to check in two bags for free), so that it could keep its prices as low as possible. Ryanair, which is probably the airline that exploits this business model as much as possible, learned from Southwest Airlines how to use this business model, and then took it to the next level. Ryanair was one of the first, if not the first airline in Europe, to start charging customers for checking bags, meals and drinks, priority boarding, checking in at the airport, seat selection, carrying on a larger bag into the cabin, booking tickets with a credit card, and many others (Diaconu, 2012). Ryanair, even flouted the idea of configuring airplanes so that customers would stand during the flight and also charge them for using the bathroom, however both of these ideas never materialized and were speculated by some that these were said for free publicity for the airline (Bachelor, 2010). They, like most low cost carriers, also do not give their customers frequent flyer miles that could be used for free flights or upgrades. Low cost carriers also tend to fly to secondary airports that have limited amenities and are further from city centers due to the fact that these airports' fees are much lower and have less congestion compared to the main airports that are used by legacy/network carriers.

2.2.2 Sales Based Business Models

The following six business model typologies are ones that are designed around how businesses conduct their sales for their products and/or services. These business model typologies will demonstrate how they are differentiated from common sales methods or characteristics.

2.2.2.1 Disintermediation/Direct Selling Business Model

This business model, like the add-on/nickel and dime business model before, has two terms that are very similar in meaning, with those names being either the disintermediation business model (removing middle men between the business and the consumer) or the direct selling business model (the business selling directly to the customer). “In its simplest form, the term ‘disintermediation’ means ‘to remove intermediaries from a supply chain’...However over the past 15 years, as the markets have settled in new internet-influenced distribution chains, the term has evolved simply to signify ‘the creation of an enhanced sales network in which consumers deal directly with service providers’” (Parfitt, 2012 as cited in Jallat & Capek, 2001). By being able to effectively remove the middle man/men in the sales channel, a business will be able to make a higher profit margin (by not having to pay out a fee or commission to the intermediary), pass savings onto their customers in the form of lower prices (making their product more competitively priced), or a mix of both. A side benefit of direct selling could also be that the business would get a better idea of what their customer demographics look like due to the use of customer credit cards, shipping information, and others, something that the business may not be able to attain if they didn’t do direct selling.

Examples of this business model are aplenty, like most the ones written about in this dissertation, however one common theme tends to be among most of the contemporary examples when it comes to cutting out the middle man/men, that being companies who used to power and speed of the internet to reach and sell their products to customers directly. One such company that was a pioneer in doing this amongst its competitors was the computer company Dell; while the company was founded during the internet’s infancy, the company first relied on connecting with its customers by phone, and then later by having their website handle most of their customer’s orders. As it can be summarized, “An excellent example of disintermediation in action was the strategy adopted by the online computer retailer Dell at the beginning of the 21st century. The company sold goods through its website but had no physical presence in shopping centres. The overhead cost savings enabled it to offer a wide range of goods at lower prices than traditional retailers charged” (Chadwick, 2016). Dell also shows how a company using this business model adapted to technology, starting first by using the telephone for orders and later using the internet.

The airline industry is both disintermediating its existing sales channels as much as possible while in parallel trying to increase the total share of direct sales. Historically airlines would use networks of travel agents to sell their tickets to future passengers on their flights through the use of telephones, and later through global distribution systems (GDSs); eventually airlines started to allow customers to directly book their tickets through the airline’s call centers, alongside travel agents. However, when the internet took its place in common society, airlines took advantage of this cheaper and more efficient way to sell their tickets directly to potential passengers, and have not looked back since. “The direct

online channel is expected to remain the fastest growing in terms of sales and interaction. Leisure customers will use the airlines' proprietary websites whereas businesses, particularly in the SME segment, will use intranet portals to connect directly with airlines...For airlines, direct online sales are usually the lowest-cost channels and an efficient way to gather customer data. Airlines can analyze this information to identify trends and make personalized offers" (Borgogna, Stroh, Hilz, Agarwalla, & Jakovljevic, 2016). This trend will only continue as airlines look for further cost savings in all aspects of their businesses including the increased use of technology and the internet to replace more expensive human labor. Most low cost carriers are either exclusively using the direct selling business model or charge the potential customer a higher price if they do not use the direct selling method to book their tickets; even within the direct selling method the low cost carriers, as well as some of the legacy/network carriers, charge customers an additional fee for booking tickets through the airline's call center, whereas booking through the airline's website does not have that same additional fee. Legacy/network carriers, while trying to have more of their customers book directly through their website, still have a large presence through travel agencies and other intermediaries, albeit a dwindling one.

2.2.2.2 Affiliation Business Model

The affiliation, or affiliate, business model is one that continues to be more and more integrated and used in the aviation business. The business model relies on businesses or individuals using their resources and sales force to sell another company's products, in return for a fee, whether it is set at a flat rate or as a percentage of the total transaction amount. "The affiliate model is mainly a marketing strategy that is used to generate more exposure, sales, and income. To use this strategy, businesses and even individuals reward others for sending customers their way via a click through link, and provide purchase opportunities wherever people may be surfing; it does this by offering financial incentives (in the form of a percentage of revenue) to affiliated partners (sites)" (Envision, n.d.-a). The main purpose of this business model is to employ all available resources at a business' disposal to drive potential customers to buy its product, whether that is through the use of partner companies, independent companies, or individuals.

This business model is most exercised in the e-commerce realm when it comes to online purchases and transactions. One way, is that companies will use advertising banners on their website to direct potential customers to the website of the advertisers in hopes that the "clicker" will make a purchase on their website. However there is one big example where people may have encountered the affiliation business model and did not even know that they were a part of it; Amazon being one of the most trafficked websites in the world, uses its market power to connect potential customers to potential merchants. They do this by listing, in addition to their own products, products from third party businesses, in return for a fee/commission, if the sale or transaction is successful. Aside from their own products in

their “fulfillment centers”, Amazon does not procure, handle, or ship the product that is being purchased by the consumer; they merely just carry out the transaction on their website for the third party merchant, without a keen customer realizing if they bought their product from Amazon directly or through a third party company.

As mentioned earlier, this business model is most used with internet companies selling goods or services, however it is not exclusively restricted to internet companies, as airlines are increasingly using this business model to both connect potential passengers to both their own flights and to partner airlines’ flights. If a customer is buying a multi flight international ticket through an airline that is part of one of the three global airline alliances of Star Alliance, Skyteam, or Oneworld, it is very possible that that passenger will be flying on both the airline that they bought the ticket from and with a partner airline that is selling their tickets through that airline’s website; this is especially true if the original airline only serves either the origin or destination airport and not both. However, an airline does not need to be part of one of the three global airline alliances to use the affiliation business model, as this practice can be used simply through the concept of codesharing. A codeshare flight is the process of having a flight that is operated by one carrier, with the operating carrier, along with other carriers that the operating carrier has entered into an agreement with, have the ability to sell tickets for that flight as if it is operated by their own airline. Most codeshares are either on a free flow (as many seats as the carrier can sell for a set fee or commission) system or are a fixed amount of seats, called block seats, that the non operating carrier has purchased from the operating carrier. Codesharing can be seen on an airline’s website when trying to book a flight on a route where the airline does not fly between the origin and destination airports, hence the need to codeshare on a partner airline’s flight for all or part of the itinerary. In addition, interline agreements between airlines allow passengers to combine what would normally be two separate tickets on two separate airlines to be priced and purchased together on one website for the benefit of having more efficient connections between the two airlines flights and having any checked baggage automatically transferred between the two flights (FlyDealFare, 2019). The affiliation business model is mostly used by legacy/network carriers since low cost carriers typically do not offer multi flight itineraries and do not cooperate with other airlines.

2.2.2.3 Cash Machine Business Model

The cash machine business model, also referred to as the cash conversion cycle, is one that is quite simple to understand. In the business world, there are two ways companies operate; businesses either pay upfront and procure the product or service before the consumer pays for it, hence the company has to pay out money to the supplier before it receives money from the customer for that good or service, or the company will receive money from the customer for the good or service before the customer takes ownership of the good or service, hence the company does not pay out money in advance, but holds money in

advance before the final transaction to the customer takes place. With the cash machine business model, the business gets to capitalize on forwarded cash from the customer before they have to pay out the expenses for the product or service that they sold, leaving the company in a more cash liquid situation. “The cash conversion cycle (CCC) is a metric that shows how long it takes for an organization to convert its resources into cash. In short, this metric shows how many days it takes to sell an item, get paid, and pay suppliers. When the CCC is negative, it means a company is generating short-term liquidity” (Cuofano, n.d.).

This business model is more identified with companies that do not have a brick and mortar business setup, as operating with such a setup would require the business to have products for their customers on stock, ready for them to be purchased, and requiring the company to purchase these products from their suppliers in advance for their customers. However, most companies that do not have this issue of having their products upfront and ready for customers to purchase, are those that do their transactions online; internet retailers or marketplaces typically take orders and payments before the product is sent to the customer, leading to a negative cash conversion cycle (i.e. short term liquidity). An example of a company that operates in this manner is Airbnb; the company connects potential tourists with potential hosts that are willing to provide accommodations for their upcoming vacations; Airbnb charges the tourists’ credit cards immediately upon the hosts’ acceptance of the tourists accommodation request, and only pays the hosts the day after their tourists have stayed the first night at the hosts’ accommodation, leading to a negative cash cycle conversion. Since Airbnb holds onto the cash from the time the reservation is confirmed by the host and doesn’t have to pay the host until after the first night of the reservation, Airbnb gets to take advantage of the benefits of short term liquidity (Airbnb, n.d.).

This business model is probably more apparent in the aviation industry than some of the previous business models, since it is unheard of for a passenger to pay for a flight on an airline after they have flown on their flight; it is almost exclusive that all passengers pay for their flights upfront before they actually board and travel on their flights that they have booked in advance. This practice saves airlines a lot of trouble of having to seek liquidity for operating flights in the future since they are paid upfront for flights in the future and do not have to pay suppliers such as fuel companies, airport service providers, etc; however some airlines do have arrangements with suppliers to pay them upfront leading to a positive cash cycle conversion. Table 1 shows an analysis of the cash conversion cycle for airlines, showing most capitalizing on a negative cash conversion cycle. While the airlines get to capitalize on the benefits of cash machine business model, many, if not most, of their suppliers do not have this benefit, and usually have to provide their product or service to the airline before the airline pays for that product or service. This business model is used by most airlines, both legacy/network carriers and low cost carriers that sell tickets to potential passengers, either directly or through intermediaries.

Table 1: An Analysis of Cash Conversion Cycles among Selected Airlines

S. No	Name	Cash Cycle (days)	Market Cap (\$ million)
1	Delta Air Lines	(17.22)	35207
2	Southwest Airlines	(36.41)	32553
3	United Continental	(20.12)	23181
4	American Airlines Group	5.74	22423
5	Ryanair Holdings	(16.73)	21488
6	Alaska Air Group	13.80	11599
7	Gol Intelligent Airlines	(33.54)	10466
8	China Eastern Airlines	5.75	7338
9	JetBlue Airways	(17.90)	6313
10	China Southern Airlines	16.80	5551
	Average	(9.98)	

Source: WallStreetMojo (n.d.).

2.2.2.4 E-Commerce Business Model

The e-commerce business model is one that is growing in almost every corner of the business world. As the world is more and more connected to the internet, so are businesses that are looking to connect and sell their products to their customers through e-commerce channels. Whether it is cutting out intermediaries, reducing the amount of physical staff to be employed in offices or stores, or just trying to make shopping for the customer more efficient, the move from doing business at tradition retail locations to an online experience is growing and accelerating as time progresses. This business model is one of the more simple ones to understand as the business to customer version is most applicable to the airline industry; “E-commerce...may be thought of like a digital version of mail-order catalog shopping. Nearly every imaginable product and service is available through e-commerce transactions, including books, music, plane tickets, and financial services such as stock investing and online banking...E-commerce has helped businesses establish a wider market presence by providing cheaper and more efficient distribution channels for their products or services” (Bloomenthal, 2019).

Like many of these business models, the e-commerce business model can be found in many different industries, especially ones that traditionally have used intermediaries or were not using the internet for conducting sales. Adidas and Nike are two sportswear companies that are shifting more of their focus to e-commerce in order to lower costs (in terms of the number of retailers they work with for sales) and to gain more data directly on their customers, so that they can market more effectively to them without intermediaries being in between them and their customers. “Though Nike still planned to offer its shoes to third-party retailers, the company announced at the time that it would be thinning the ranks of its roughly 30,000 retail partners to focus intensely on only about 40 of those partners

going forward...The decision among major manufacturers to pursue this business model is also partly built on the new data-driven marketing techniques that currently dominate the advertising world. By gathering data on their own, companies can now build direct relationships with customers and personalize their shopping experiences” (Vanguard Software, 2018). As it can be seen from this example, the e-commerce business has a two sided benefit of lowering costs through distribution channels, but also gaining priceless data on its customers which can be used for marketing purposes.

The airline industry is no different from any other business or retailer that sells both their products through intermediaries and directly to the customer, mostly through the internet. As with the increasing trend of using e-commerce to connect to potential customers and to make transactions for airplane tickets, airlines are continuing to tap into e-commerce to lower its costs, while also gaining some additional data on their passengers (airlines already get name and date of birth data for passengers even if they book through an intermediary). “Airlines that have achieved an advanced e-commerce stage realise important benefits. They include improved economic performance and stronger brand attraction. This is the result of two aspects: The focus on a ‘direct-to-consumer’ approach. It offers the best value only directly, it drives loyalty and it supports new pricing & revenue models. It also means that the consumer comes to the airline first; the taking of control of their destiny by re-engineering business processes related to sales, marketing, and customer service and having transactions done cost-efficiently, electronically and simply” (CAPA - Centre for Aviation, 2015). For the most part, airlines only see more and more benefits for shifting their sales focus to e-commerce due to the lower sales costs, direct connection to customers, increased loyalty, marketing activities, and customer service (since most booking modifications can be done online without the use of an intermediary travel agent or airline representative at a call center). Other than the initial increased expense in IT and online infrastructure, an airline has very little reason not to support a shift and focus of their sales and marketing activities to online channels. This business model is most embraced by low cost carriers, as a majority of their sales are done on their own website, but legacy/network carriers are also increasingly shifting their sales online directly with the customers.

2.2.2.5 Cross-selling Business Model

The cross-selling business model is one that can be seen in a couple of industries, especially ones that have a face to face interaction with their customers. In a simplistic way, the concept of this business model is for a business, who already has a customer that is buying or is going to buy a product from that business, to sell that customer as many other products as possible, whether it is related or unrelated to the original product that was sold. The purpose of doing this from the business side is that it saves time finding additional customers to sell these additional products to, and to create as much value/sales from existing customers as possible; from the customer side, the purpose of buying

products from a cross-selling business is because that customer already has a relationship with that business and has a level of trust to purchase products from them, saving them time to find a business that they don't already have a relationship with and who they may or may not trust. "Cross-selling is a sales tactic aimed at generating more sales by suggesting additional, related or complementary items to a buyer who's already committed to making a purchase...The goal of both cross-selling and upselling is to maximize the value of a purchase as well as to improve the customer's buying experience by creating additional value" (Oberlo, n.d.). The important thing to remember is that with cross-selling, the goal for the business is to raise the average revenue brought in per customer.

One of the most recognized cross-selling business models is that of a convenience store at a gas station. Once a person pulls into the gas station and begins to fill their car with fuel, they have now committed to purchasing that product from the gas station. When that customer goes inside to pay for the fuel, the customer will see many different types of products in the convenience store, such as groceries, prepared food, car products, newspapers and magazines and other items. The idea of having these both related and unrelated products to the purchase of the fuel is that since the customer is already in the convenience store to pay for the fuel, they could quickly purchase other items that they may need at that moment instead of having to go to another store to purchase those items; if the customer is in a hurry, it is more likely that they will purchase the product at the convenience store in order to save time, even though at the convenience store the product may cost more than at a regular supermarket. Royal Dutch Shell was one of the first gas station chains to use this concept; "Shell uses its network of petrol stations to sell a range of goods that are quite unrelated to the oil business, such as groceries and other everyday items. Legend has it that the practice started when a clever Kentucky Fried Chicken (KFC) franchisee opened a KFC restaurant in a Shell petrol station. Soon customers were refueling not only their cars but also their bodies, sparking the idea of Cross-selling at Shell" (Gassmann, Frankenberger, & Csik, 2014).

This same business model is used in the airline business and at different stages of interaction between the airline and the customer. Part of the cross-selling that an airline does, overlaps with the solution provider business model that was written about earlier in this dissertation, where a customer is able to also get a rental car, hotel room, and other travel related things through the airline, which would raise the average revenue per customer. The parts of this business model that are not covered in the solution provider business model is that of buying regular everyday items on the airlines' e-shopping website and the selling of duty free products onboard international flights. Airlines such as American Airlines offer customers the chance to buy products from over 950 stores such as Nike, Apple, and Sephora on their e-shopping website; for products bought on this website, customers who purchase items on their website will get the added benefit of earning frequent flyer miles for every dollar that they spend (American Airlines, n.d.-a). The other aspect of cross-selling for airlines mentioned earlier is that of selling duty free products

onboard international flights; since the flight is travelling internationally, airlines are able to sell products duty free to customers aboard their flights. Most of the products sold on these flights are usually not related to travelling as they can range from cigarettes and liquor to perfumes and fragrances. This is done because when the flight lands and the passengers exit the aircraft, they may not be able to sell them anymore products since they may have just completed the last part of their journey with that airline and are no longer their customer. Both low cost carriers and legacy/network carriers take part in the practice of selling duty free products onboard international flights while the practice of airline e-shopping websites are mostly conducted by legacy/network carriers that have frequent flyer programs.

2.2.2.6 Digitalization Business Model

The final business model of this dissertation is probably the one that is being used exponentially more every day in both the aviation industry and in the general business world. Similar to the e-commerce business model, as technological advances increase with time, so does the process of digitalization in the business world; however the e-commerce business model concentrates more on performing transactions online as opposed to moving business processes online. Some definitions refer to this business model as putting the entire product on the internet, but some definitions use this business model in terms of businesses digitalizing anything from customer interaction, to doing sales and marketing, to business processes, and that's how this dissertation will interpret this business model. The following is a definition that can be used to explain this business model in more detail, "Digitalization or digital transformation describes the continuous change process to digital processes, based on a sophisticated IT infrastructure, digital applications and optimally networked systems and data. The existing business model is digitally mapped and/or new digital products are developed. Information, communications, processes and services are networked via digital platforms" (AOE GmbH, n.d.).

Most of the examples of this business model that are most apparent to the general public are ones where the means of communication between a potential customer and the business are taken as much as possible from face to face interaction and putting that online; the reasons for this could be convenience for the customer, more efficient ways of managing the business, and/or lower costs due to less physical staff needed. The Home Depot is the largest home improvement chain in the United States and the world. Like many retailers that existed before the internet boom, The Home Depot had a limited presence on the internet in terms of product information, the ability to purchase items online, and customer service. "Once just a hardware store, The Home Depot today has a robust data and IT department to fuel its ongoing digital transformation...Instead of searching up and down dusty aisles, Home Depot is moving towards contractors and DIYers shopping online and picking up in store. The goal is to create a seamless experience across channels and to provide the best products and resources to customers...It also added visual and voice search

to its app to give customers more options. Instead of being overwhelmed by products, customers can easily find the right items and get help knowing how to make home repairs or complete a project (Morgan, 2019). As it can be seen from this example, both the customer and the business are benefiting from digitalization as customers have a more seamless experience, the business gets better insights into who their customers are and what they are buying. All of this is good for the customer and the business (if carried out without issues) as it can lead to an improved business relationship between the two parties.

The same digitalization trend that has been occurring with standard retail businesses is also happening in the aviation industry. Since the process of online sales has already been covered in the disintermediation/direct selling business model and the e-commerce business model, the digitalization business model will give other examples of this business model at work in the aviation. “According to recent research by Frost & Sullivan, digital transformation programs in the airline industry could generate an incremental value of \$5-\$10 for every passenger, annually. Such extraordinary value generation would derive mainly from improved productivity, cost savings, and new ancillary revenue streams. Airlines, of course, realize this. Digitization is already fostering innovative business models, while rapidly transforming core and non-core functions. Meanwhile, partnerships with technology solutions providers are driving overall corporate strategies—essentially, the vision of being among the most preferred airlines, improving customer satisfaction, and supporting sustainable profits” (Singh, 2019). Like in The Home Depot example, airlines are using digital means to make the customer experience more easy and efficient. Since the terror attacks of 9/11 in the United States, checking in, getting through airport security, and boarding have become a longer and more intricate process, with passengers usually having to arrive at the airport a couple of hours before their departure to insure that they arrive at the departure gate on time. However, the airlines were, through the use of digitalization, able to minimize this time through the use of the online check in process that most airlines offer their customers. By being able to check in online (usually within 24 hours of departure) the customer can skip the check in line, leave their checked baggage at the bag drop off location, and continue straight to the security line; this can be a significant if the passenger is travelling at peak airport travel times. This would not only save the passenger time, but it also requires the airline to have less staff at the check in counters since less people would be using them. Some airlines like Lufthansa have even created an automated check in process where the passenger enters their information into their reservation on the airline’s website, and then their boarding pass is automatically emailed or texted to them 23 hours before departure (Lufthansa, n.d.). Also airlines will send passengers text messages if their flight is delayed or cancelled, giving passengers a more accurate time of when they will need to be at the airport. All of these digital conveniences will lead to a better overall experience for both the passenger and the airlines, leading to a better relationship and perhaps a more loyal relationship from the passenger. This business model is used by both low cost carriers and legacy/network carriers as it is imperative that airlines

take full advantage of the potential benefits from the advances of the digitalization business model.

3 AVIATION BUSINESS MODELS AND THEIR DETERMINANTS

The aviation industry, as it can be seen in the previous chapter, has a couple of different business models that rely on a couple of different business model typologies to be run as an effective business. Yet it takes more than just using cohesive business model typologies to run an airline in a complex and regulated (in terms of maintenance and safety standards) industry such as that of the aviation industry. It takes a comprehensive plan that is well coordinated between all segments of the business, such as one that is articulated in the book *Business model generation: a handbook for visionaries, game changers, and challengers* by Osterwalder and Pigneur. While this book is intended for people who want to build a business model for the future, it can also be used to dissect and analyze existing businesses and their models through its Business Model Canvas with its nine building blocks (mentioned at the beginning of chapter 2 of this dissertation) of customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure. While all of these nine building blocks apply in some way to most businesses, some will have more importance than others when it comes to analyzing the different business models in the aviation industry. In the following sub-chapters, this dissertation will analyze the dominant aviation business models through the eyes of Osterwalder and Pigneur's Business Model Canvas, and then look at an airline that embodies that business model, looking at why the airline chose that business model and what impacts that business model has on the airline. This chapter will then conclude by looking at what are the top three building blocks for each airline business model while trying to identify similarities between them.

3.1 Legacy/Network Airlines

The first airline business model this dissertation will investigate is by far the most dominant and the oldest in the aviation industry, that being legacy/network airlines. The term legacy comes from the fact that these airlines typically have been in existence for a very long time, hence the legacy name, while the term network comes from the use of flights connecting at an airline's hub to make up a network. The following shows how a legacy/network carrier is broken down and analyzed according to the nine building blocks.

Customer Segments: A legacy/network carrier's customer segments are made up of a wide variety of passengers, offering products that cater to both the higher spending passengers that fly in first and business class and to the more cost conscious passengers that fly in economy class and are buying the cheapest possible ticket; there are also certain amenities

at the airport that the higher spending passengers will enjoy, which also sets apart the two ends of the customer segment that a legacy/network caters to.

Value Propositions: The value propositions that a legacy/network carrier aims to deliver are being able to connect passengers between any two airports, while how it offers it to its customer segments are quite diverse; the higher spending passengers (usually travelling for business) care more about access to the airport lounge, expedited airport check in lines, expedited security lines, and expedited aircraft boarding than they do about how much they are spending, while cost conscious passengers are mostly concerned with the price of the plane ticket and do not care about airport amenities and quicker lines, as long as they can get from one place to another as cheaply as possible.

Channels: The channels that a legacy/network carrier uses have been transforming rapidly ever since the internet has become accessible to most people in the developed world; typically these airlines relied on travel agents as well as their own call center(s) to sell tickets to their customers, however with the internet being used in most places around the world, legacy/network carriers are now pushing customers to buy tickets directly from their website, while some larger corporations still use large travel agencies to handle the purchasing of employees' plane tickets.

Customer Relationships: Legacy/network airlines try to maintain a strong customer relationship with their customer by trying to promote loyalty through the use of passengers acquiring frequent flyer miles (which can be redeemed for free flights and other items), the use of airline branded credit cards (which give customers preferential benefits with the airline), and frequent flyer status with both the airline and the alliance the airline is in (which give customers access to airport and airline benefits regardless of the class the passenger is flying in), among other things. These forms of customer relationships help to acquire and retain customers for the future.

Revenue Streams: Not only are the revenue streams of a legacy/network carrier extremely important, but also which type of revenue stream is used. While these carriers sell other items and amenities, it is the sale of airline tickets that make up a majority of an airline's revenue. Legacy/network airlines use a yield management type of revenue stream which is from the dynamic pricing family; by using the amount of seats available and the time of purchase (compared to the flight date), legacy/network airlines can get higher and more effective revenue streams than with a fixed pricing scheme.

Key Resources: Legacy/network carriers put much emphasis into its physical key resources, such as having the newest and latest designed aircraft with the best onboard experience, while also placing importance on having the best and most helpful staff to create value propositions and maintain customer relationships, among others. Legacy/network carriers will also make marketing one of their key resources to try to lure

more customers, and customer segments, to their airline, in addition to the other key resources listed in the previous sentence.

Key Activities: For legacy/network carriers, there are a couple of key activities that it performs, however the most notably is performing flights in order for a customer to get from one place to another; legacy/network carriers place a great emphasis on this, either by itself or with the help of partner airlines, by being able to get a passenger from any city in the world with an airport that has commercial flights to any other city in the world that has an airport with commercial flights, whether this is non-stop, one stop, or multiple stop journey, via a hub airport.

Key Partnerships: Legacy/network airlines place a great importance on key partnerships as they are an integral part of how these carriers operate. There are two types of key partnerships, the first are airline partners as most of the world's legacy/network carriers are either in a global airline alliance such as Star Alliance, Skyteam, or Oneworld, which allows passengers to easily connect onto flights between carriers as well as having reciprocal frequent flyer benefits. The second key partnership is with airports, where legacy/network airlines will work with airports to be able to allow the airline to have their lounge at the airport (usually at a cost), as well as allowing premium passengers to go through expedited security lines, for example.

Cost Structures: For legacy/network carriers, cost structures are not at the forefront of how these airlines run their business, although it is of course very important. Instead these airlines' cost structures revolve around the product that they want to deliver to their customers, and then they try to get those costs as low as possible, through economies of scale and negotiations with suppliers, such as aircraft manufactures, fuel suppliers, labor unions, and airport service companies, just to name a few. These airlines are not afraid to have higher costs compared to other airline types, so long as they can bring in higher revenues to cover those higher costs.

Lufthansa

When thinking about legacy/network airlines, especially in Europe, Lufthansa is usually one of the first airlines that comes to mind. This is due to its long history in aviation, its status as the flag carrier of Germany, and its ownership in other flag carriers, such as Swiss International Air Lines, Austrian Airlines, and Brussels Airlines. However, Lufthansa did not have an easy beginning as it took several years after World War II for West Germany to get sovereignty over its own airspace, hence allowing a domestic airline to fly. The modern day Lufthansa was founded from the remnants of the pre-war Lufthansa that was founded in 1926, though today's company is headquartered in Cologne instead of Berlin. The post-war Lufthansa was founded to serve West Germany, with domestic routes connecting cities within the country, as well as connecting those domestic cities with the rest of the world; Lufthansa was able to do this by building up a hub at Frankfurt Airport

for long haul flights that went to the Americas, Africa, and Asia (Lufthansa Group, n.d.). In addition, Lufthansa was also used for marketing purposes to attract people from around the world to come and visit West Germany, as it was a way for West Germany to transform itself from the images and effects of World War II (de Syon, 2007). If Lufthansa had not set up its airline centered around its hub in Frankfurt (also later in Munich), it would not have been able to effectively connect its collection of destinations in West Germany with other cities in Europe and the world.

As the world is much more globalized and Europe is more connected than it was back then, Lufthansa today focuses on maintaining its market leadership in Germany (and other countries with its subsidiaries) while making “it possible to fully serve all relevant market segments and geographic markets with an attractive offering both for premium customers and for more price-sensitive travelers”...while Lufthansa, and its other network airlines, “strive to offer an attractive, high-quality product over the long term on the basis of a stable multi-hub system” (Lufthansa Group Investor Relations, n.d.). However Lufthansa also realizes the need to both control and reduce its costs as “A consistent focus on costs remains the basis for sustained financial success. Cost-cutting continues to this end, especially in areas that have no effect on customers’ perceptions of quality” (Lufthansa Group Investor Relations, n.d.).

3.2 Low Cost Airlines

The next airline business model that will be analyzed is that of the one that has grown rapidly over the past twenty years, these being the low cost carriers. As the name of this business model suggests, these airlines are named in this manner because the main focus is on keeping costs as low as possible in all parts of the business (with the exception to maintenance and other safety aspects that are regulated). In the following, a low cost carrier is broken down and analyzed according to the nine building blocks.

Customer Segments: While low cost carriers aim to fill their plane as much as possible, the majority of their customers tend to be the most price sensitive customers who are traveling for leisure or to see family and friends, with business travel usually making up a smaller proportion of their customer base. Although in the past couple of years, low cost airlines have been more aggressive in offering potential business passengers a product that would more suit them.

Value Propositions: The value propositions that a low cost carrier offers to its customer segments are dominated by the price sensitive passengers; these passengers mostly care about just getting from point A to point B as cheaply as possible, with no need for any special amenities or benefits. The few passengers that are less price sensitive that fly on low cost carriers are usually flying for business and take these flights because they are usually non-stop flights and will pay for higher priced tickets because they included benefits such as, priority boarding, quicker security lines, free seat selection, and flexible

tickets, all of which are not available with the cheapest tickets that the most price sensitive passengers buy.

Channels: Low cost airlines almost exclusively use only one channel to carry out their ticket sales, with that being their own website; the sole reason they do this is all done in the name of costs. By selling tickets on their own website, the low cost carriers do not have to pay commissions to travel agents or any other intermediaries. The one main exception is EasyJet, who still has an overwhelming majority of its sales on its own website, but also has their flights loaded into global distribution systems so that travel agents and other corporate entities can book their flights. Some low cost carriers also allow customers to book their flights with the airline's call center, however an additional fee is usually charged for this and this practice is discouraged.

Customer Relationships: Low cost carriers do not place a great deal on customer relationships, as it is not as important as it is for legacy/network carriers. Since their ticket prices are some much lower, low cost airlines know that the market has many more potential passengers for their flights, that these passengers will usually pick the flight that has the lowest price regardless of which airline is operating it. There are only a few airlines that work toward customer relationships by promoting customer loyalty; Southwest Airlines does this with their Rapid Rewards frequent flyer program (similar to legacy/network carriers) and Wizzair has a discount club which for an annual fee entitles a passenger discounts on flights and baggage for a year.

Revenue Streams: With low cost airlines, revenue streams can be seen in three different groupings. The smallest one being revenue made by selling advertizing space on the planes and in the airline's publications. Another one is the selling of ancillaries (such as seat reservations, baggage fees, etc.), which continues to grow both in importance and in revenue collected every year. The most important revenue stream is from the sale of flight tickets, where low cost airlines traditionally have used a real-time-market system of dynamic pricing, but have more recently started to incorporate the uses of a yield management system (like those used by legacy/network carriers).

Key Resources: While every business must have key resources, low cost carriers do not place much importance on having the best key resources, as it main focus is to have the lowest costs possible; due to this, low cost airlines usually fly one type of airplane, (usually single aisle) that they get really low prices on because they order many planes at one time and not just a few planes every couple of years. These planes usually don't have any special features or amenities, but are usually very fuel efficient. Regarding staffing, low cost airlines usually try to have their labor expenses as low as possible too, and not always trying to hire the most experienced people, who would usually cost more to employ.

Key Activities: A low cost carrier's key activities are quite simple, to transport passengers between airports that the airline serves with as little costs as possible and with as little

disruption or delay as possible. They do this by typically flying to secondary airports that are not as congested and are farther from city centers; this helps the airline stay on time as they do not have to deal with airport traffic delays and pay out possible delay or cancellation compensation to passengers. They are also able to do this because they do not have connecting passengers as low cost airlines only fly point to point (mostly) non-stop flights. This all helps low cost carriers keep their airplane utilization rate high, which in turn allows them to sell tickets more cheaply.

Key Partnerships: Low cost airlines have very limited key partnerships, as they do not have codeshares or interline agreements with other airlines; passengers on a low cost airline will only fly with that airline for their trip, unless they have a separate ticket with another airline, as they do not offer inter airline connections. The only types of partnerships that low cost carriers have are with hotels, car rental agencies, and others that offer their services on the airline's website to customers as part of the booking process.

Cost Structures: This building block is the most important for low cost carriers as cost structures are what really separate them from legacy/network carriers. Low cost carriers are able to have very low cost structures because they operate in a very high volume and low margin manner. Whether it is transporting passengers, purchasing aircraft, number of flights performed, or something else, low cost airlines run their business by capturing the benefits of economies of scale, high utilization rates, and high load factors. It is this low cost approach that allows these airlines to have extremely low ticket prices. In addition, they rely on having lower labor costs and lower airport costs as a result of flying to secondary airports.

Ryanair

In the past decades Ryanair has been a leader and pioneer of the low cost carriers, often taking the meaning of no frills to the next level while often being the most profitable airline in Europe. Although Ryanair is a very successful airline today, its first couple of years were not so dominant, as the airline in its second year of operation began by challenging the duopoly of British Airways and Aer Lingus on the lucrative Dublin-London route with fares that were half the price of their competitors. This led Ryanair into the first price war in European aviation history and caused them to lose £20 million by the end of the 1980's. As a result, the Ryan family invested a further £20 million into Ryanair in order to save the airline alongside a business model shift from that of a traditional legacy/network carrier to that of a low cost airline. Michael O'Leary who was the CFO of Ryanair at the time (he is currently the CEO), employed the new business model after learning and studying how Southwest Airlines used this business model and seeing the need to serve price sensitive passengers in Europe. This change in business models not only saved Ryanair, but it also set it on a path for future dominance and success as Europe was deregulating its airspace, allowing for Ryanair to be able to have the freedom to choose where it could fly to (Boon, 2019). Ryanair has continued to grow every year since

this transformation and is now Europe's largest airline group (along with its subsidiaries Buzz, Lauda, and Malta Air), with its sights set on eclipsing 200 million passengers by 2025 from its 2019 amount of 149 million passengers (Ryanair Holdings plc, n.d.). To achieve this Ryanair follows these eight business strategies of, maintaining low fares, delivering the best customer service performance, providing frequent point-to-point service on short haul routes, achieving the lowest operating costs in the industry, taking advantage of the internet, committing to safety and quality maintenance, enhancing operating results through ancillary services, and focusing on growth in targeted specific markets (Blake Tran, Perkinson, Sinnenberg, Tarica, & Harrison, 2015).

3.3 ACMI Carriers

As briefly mentioned earlier in this dissertation, an ACMI carrier (also known as a wet lease provider) is an airline that for a set price, operates flights on behalf of another airline, and only provides the aircraft, the flight crew, the maintenance for the aircraft, and the insurance for the aircraft and crew; the airline for who the flight is being performed for handles ticket sales, marketing, fuel, airport services, navigation, catering, and other direct costs that are incurred from the flight. Some ACMI carriers will even have their aircraft painted in the livery of the airline that they are performing flights for (usually if it is a longer term contract).

Customer Segments: An ACMI carrier's customers are different from that of the previous two airline types as their customer's are mostly legacy/network airlines that operate globally and concentrate on operating higher capacity aircraft and/or on medium/long haul flights and not lower capacity aircraft on short haul routes. This relationship can vary in duration, with some flights operating on an ad-hoc basis while others are operated under multiyear contracts.

Value Propositions: The value propositions that an ACMI carrier offers a legacy/network airline is the ability to have more of its costs fixed for flights, since the ACMI carrier is bundling the costs of the aircraft, crew, maintenance, and insurance into a fixed cost, usually per flight hour. In addition, since ACMI carriers typically use lower capacity aircraft for these flights, they are able to connect lower trafficked destinations to an airline's hub airport profitably whereas perhaps the legacy/network airline itself cannot with its higher capacity aircraft and resulting poor load factor.

Channels: Since the relationship between an ACMI carrier and its customers (legacy/network airlines) is a business to business relationship, the channels used here are mostly through direct contact between the managers of the different airlines involved in this partnership. Since airlines are not as numerous as businesses in other industries, most airlines already know and have direct contact with each other making marketing and other sales activities redundant.

Customer Relationships: The relationship between the ACMI carrier and their customers are very important as they can help bridge any differences between them and help foster a long term partnership (if desired). It can also lead to recurring business opportunities for the ACMI carrier if they perform flights for the legacy/network airline with few delays and cancellations, since the legacy/network airline would look better in the eyes of their customers (their passengers) and would reduce complaints and delay/cancellation compensation that would have to be paid out to the passengers.

Revenue Streams: For ACMI airlines, the only revenue stream that they have is from the legacy/network airlines that they perform flights for. However the pricing mechanism that they use for these revenue streams can vary depending on the specific route that is flown and on the duration of the contract. If the flight or flights are being done on a short term or on ad-hoc basis, the pricing mechanism will be more aligned to a list pricing system since it would be only short term; if the contract would be for a longer multiyear period, than it would be more of a negotiation/bargaining system since the ACMI airline would be committing its resources to another airline for many years.

Key Resources: For ACMI carriers their key resources are quite simple, it consists of aircraft, crews, providing maintenance for those aircraft, and having insurance for those aircraft and crews. If they can provide those four resources, without any interruption for their customers, then they will be able to meet their customers' requirements. Of course the ACMI airlines also need administration workers who will accurately calculate the costs of operating routes for legacy/network airlines, but the key is to have the reliable and available aircraft, crews, maintenance, and insurance to provide flights for its customers.

Key Activities: Similar to the key resources building block, the key activities of the ACMI carrier is to operate flights for its customers (legacy/network airlines) with as little delay or cancellation as possible. This is achieved by having enough aircraft and crews available for your customers' requests, while also having the proper maintenance organization (either internally or externally) there to service the aircraft, and also being properly insured for such activities.

Key Partnerships: Comparable to customer relationships, key partnerships are also very important as they can foster long term business opportunities with legacy/network airlines. However, ACMI airlines should also have key partnerships with airline manufactures or aircraft lessors who can provide them with aircraft at the lowest possible prices so they can help ensure that low trafficked routes that they will operate will be able to be profitable; in short, if the aircraft purchase/lease costs are high, then an ACMI airlines will find it difficult to make a low trafficked route profitable.

Cost Structures: Just like with legacy/network airlines, ACMI carriers strive for the lowest costs possible, however they will not have it be at the forefront of how they operate their business. Since they cater to their customers (legacy/network airlines) it is in their best

interests to have the newer, more efficient aircraft that their customers and their passengers will appreciate, both in terms of comfort and also in lower costs which will help ACMI carriers receive more contracts for flying routes for legacy/network airlines.

Cityjet

Cityjet, “Europe’s leading wet lease provider”, is an airline with its headquarters in Dublin, Ireland, however it has bases around Northern and Western Europe in order to fulfill ACMI flights for its customers, such as Aer Linugs, Air France, Brussels Airlines, and SAS, with its fleet of 34 aircraft. Cityjet was founded in 1993 and started to provide flights between Dublin Airport and London City Airport for Virgin Atlantic Airlines. A couple of years later it entered into a similar agreement with Air France and was then purchased by Air France in 2000. Since then the company has changed ownership a few times and in 2015 was purchased back by its founder Pat Byrne and other partners. From its founding to the present, Cityjet has operated in a niche business segment in Europe of operating routes that are optimal for smaller capacity aircraft (their highest capacity aircraft has 95 seats) on behalf of other larger global airlines (CityJet, n.d.). While there are several companies that operate in an ACMI manner in the United States, there are only a few airlines that operate in this way in Europe. Due to there being so few independent ACMI carriers in Europe, Cityjet for the majority of its history, has concentrated and solely operated as a wet lease provider for these global airlines. In addition, this also allows Cityjet to concentrate on providing what their customers need and want, performing flights safely with as few cancellations and delays as possible, with professional and friendly crews, timely and efficient maintenance, and with the lowest cost possible.

3.4 Summary of Airline Business Models’ Most Important Determinants

After analyzing and reviewing the three airline business models through Osterwalder and Pigneur’s nine building blocks from their Business Model Canvas, it can be noticed that not all of the building blocks play an equal role, especially since the Business Model Canvas was not designed specifically for the aviation industry. However the most important building blocks are critical in acting as the determinants that really set the course for which business model the airline will follow. The following table, in the opinion of the author of this dissertation, shows the top three most important building blocks for each of the airline business models that were analyzed in this chapter.

Looking at table 2, it can be noticed that value proposition is the most important block for legacy/network carriers, as their business model depends on being able to get a passenger to any airport in the world, whether it is for the whole journey or for part of the journey; if it is only for part of the journey, than the airline must rely on partner airlines to complete this trip, which is why key partnerships is the second most important block for legacy/network carriers. Of course cost structures are also important as, they must be able

to achieve this while putting costs into consideration, otherwise passengers may not be able to afford tickets on a legacy/network carrier.

Table 2: The Three Most Important Building Blocks by Airline Business Model Type

Top Three Building Blocks by Airline Type	Customer Segments	Value Proposition	Channels	Customer Relationships	Revenue Streams	Key Resources	Key Activities	Key Partnerships	Cost Structures
Legacy/Network Carrier		1						2	3
Low Cost Carrier		3			2				1
ACMI Carrier		3						1	2

Source: Own work.

As mentioned earlier, cost structures are most important for low cost carriers, since their business revolves around having the lowest cost possible. The second most important is revenue streams, since a significant portion of their revenue comes from ancillary revenues, much more than their legacy/network carrier peers; without ancillary revenue low cost carriers would not be able to survive. Value proposition is the third most important since these carriers look to be able to get people from one airport to another on a direct flight as quickly as possible and with as little delay as possible.

Key partnerships are the most important building block for ACMI carriers, as without these partnerships with legacy/network carriers (and aircraft manufacturers/lessors), they would not be able to get contracts with these airlines to perform flights that are cost effective (the second most important building block), while being able to deliver a value proposition of reliable service on flights at a low fixed costs (the third most important building block) for their customers/partners.

In table 2, it can be noticed that two building blocks are among the most important for all three airline types and a third building block being important for two of the airline types. Since the airline industry is generally a low profit margin business, it is understandable that cost structures is the most important building block across the industry, with the ability to deliver a product that satisfies your customers’ wants and needs in the form of a value proposition as the second most important. Key partnerships is the third most important building block across the airline types as legacy/network carriers and ACMI carriers rely on these partnerships to be able to deliver their value propositions to their customers.

4 POTENTIAL FUTURE BUSINESS MODELS FOR THE AVIATION INDUSTRY

As it has been mentioned earlier in this dissertation, the aviation industry is constantly changing and the changes are occurring at an exponentially increasing pace; changes that used to maybe take a decade to occur, are now happening in a couple of years or even less.

For an airline to stay ahead of its peers, it must look to set trends and not be afraid to venture out into uncharted territory, in order to capitalize on the ever changing landscape of the aviation industry.

Looking at the general business models that were analyzed in chapter 2 of this dissertation, it can be noticed that most of these business models that are used in the airline industry today, were not even in use when the jet era began or even when airline deregulation started in 1978. Because of this, it is ever more important to take a look at some existing business models that are not yet being used in the aviation industry, or perhaps on a very limited role, and explore how they could be effectively integrated into an airline's business and set them on course for the future. The following potential business models for the aviation industry are not intended for the aviation industry as a whole, but for the specific airline types that were dissected in chapter 3. They explain where the individual airline business models could potentially go in order to capitalize on areas where the market has not been able to go or areas that have been neglected.

4.1 Dual Business Model

A dual business model is a concept where a business operates two separate business models in parallel, whether it is with one business model operating under a subsidiary or not. This business model is more intended for legacy/network carriers, but could also be implemented by a low cost carrier if they were to fly between primary hub airports and not secondary airports. There are different degrees to which this dual business model can operate with there being the separation strategy, the integration strategy, and in between them the phased integration strategy (Markides & Charitou, 2004). The idea of the dual business model is not new in the aviation industry as many legacy/network airlines in Europe operate with the separation strategy by having their mainstream, network styled, airline while also owning subsidiaries that operate in the low cost carrier segment; some examples of this are Lufthansa owning Eurowings, KLM owning Transavia, British Airways/Iberia owning Level, and Aeroflot owning Pobeda.

However, running a dual business model, in either the integration strategy or in the phased integration strategy, within the same airline, or even within the same aircraft, is something that has not been tried before. Sure, legacy/network airlines have multiple classes of service from first class to economy class, but people flying in economy class on a legacy/network carrier are usually afforded more amenities and services than that of passengers on a low cost carrier. The concept of running a dual business model within the same aircraft would be to have a section of the aircraft that operates just as legacy/network airlines and to have the other section to operate just like a low cost carrier. For this to be able to work, elements from both legacy/network airlines and low cost airlines would need to be incorporated for concepts that cannot be divided into two parts. Concepts that would have to be used from the legacy/network airlines would be that of flying a hub and spoke

network as opposed to a network of point to point routes in order to allow the legacy/network passengers to catch connecting flights (also with partner airlines) to other destinations; this would also mean that the airline would have to fly to larger primary airports in order to have the connecting flight available. From the low cost airlines, elements such as having the lowest possible crew and labor costs (possibly not allowing for crews to be unionized) and having a one aircraft family fleet (purchased in larger numbers) could be incorporated, since these would lead to lower overall costs.

How would this look from the passenger perspective? Legacy/network passengers would have a similar experience to what they already have, such as the ability to book their flights online or through a travel agent, the ability to check in online or at the airport, being allowed to bring a carryon bag plus a personal bag (purse or laptop case), would get a beverage and a snack (or meal for long haul flights), and be able to collect frequent flyer miles, just to name a few. For low cost passengers, they would have to book their flights on the airlines' website (booking via travel agents or other websites would not be possible), aside from a bag drop desk they would have to check in online (unless they pay a fee), they would board after all of the legacy/network passengers have boarded (unless they pay a fee), they would not be allowed to bring anything more than a personal bag onboard (larger carryons and checked baggage would incur a fee), they would sit at the very back of the aircraft, they would not get any beverage or snack onboard (unless they pay for it), and they would exit the aircraft last; also they would not be able to buy tickets that have connecting flights, which would require them to have to book an additional ticket if they wanted to take another flight to another airport from the airport that they just arrived at (the same as how low cost carriers operate). While this type of concept of having a low cost experience on a legacy/network airline is somewhat happening already today with economy light/basic fares, it is not a full-fledged low cost experience as the hypothetical concept that was just described in this paragraph.

4.2 Blue Ocean Strategy/Aikido Business Model

The blue ocean strategy of operating in a different manner, market, or industry than most other businesses can be very advantageous for the business, especially if they can deliver a product that is easy to understand and is wanted or needed by the general public. Similar to the blue ocean strategy, but in a different sense, the aikido business model has a business use its opponents' strengths or momentum against itself. "In terms of business models, aikido refers to products or services that are radically different from the industry standard" (Gassmann, Frankenberger, & Csik, 2014). While this principle could be used in many different industries or in many different ways in the aviation industry, it would be interesting to use this concept when it comes to the classes of service that are offered on airlines; this potential business model, championed by the low cost carriers, would potentially shake up the legacy/network airline landscape when most carriers are more and more increasing the number of classes on board their aircraft.

Unlike the previous section regarding dual business models, this business model/strategy could be used with an airline that would be eliminating classes and not increasing them. Most airlines, whether it is legacy/network carrier or low cost carriers, are continually adding and creating more classes and sub-classes of service on flights; they are differentiating this by giving certain amenities and benefits to some classes and not to others, which sometimes can confuse and frustrate passengers, especially infrequent travelers, when they are expecting one type of service and end up getting something much less. A blue ocean strategy/aikido business model could be to have one class of service and offer all passengers the same level of service while onboard. This idea was used in the past by Midwest Express (later Midwest Airlines) in the United States. The airline, which served most major cities in the United States from its hubs in Milwaukee and Kansas City, championed the idea of an all economy/coach class that had the luxuries of extra wide seats and gourmet meals for all passengers (McDowell, 1997). While the price paid by passengers was not uniform, the service that they received was; the airline prided itself on its exceptional service and was able to retain customers and gain new customers through this approach. Eventually Midwest Airlines was sold to another airline that was then merged with Frontier Airlines (a low cost carrier). While Midwest Airlines did not survive in its form as a one class carrier, it is possible that an airline in the future would be able to find a niche of potential travelers who would be willing to pay a little extra for better amenities and customer service when flying in economy class, whether it is for business or for leisure.

4.3 Long Tail Business Model

When a passenger, who does not live in a large city with an airport that acts as a hub for a major global airline, wants to travel on a long haul flight to a city far away, they usually have to make a connection at one of the major hubs in their region. This can either be a seamless process where the passenger has only a short connection time and short walk between their flights, or more likely it can be an annoying experience with a long connection time and needing up to an hour just to get from one plane to the next. Some airports and their hub airlines, like Istanbul Airport and Turkish Airlines, are planning to have experiences such as the latter, commonplace for people who are flying from small and medium sized airports in the European, Middle Eastern, and North African region to destinations that require long haul flights across the globe. Istanbul recently completed phase one of its new airport that can handle 90 million passengers per year with the completion of the final phase allowing the airport to handle 200 million passengers (Im, 2019). With this type of design of concentrating flights at one airport, passengers will have a more difficult time going through the airport for their connecting flight due to the great distances and connection times that will be necessary. The interesting facet of this business model is that it could be employed by either a legacy/network carrier or by a low cost carrier, as long as the airline has newer, cost efficient aircraft (explained below).

But what if passengers from small and medium sized airports didn't need to connect at a major hub airport with all of its hassle to get to a long haul destination? The long tail business model proposes for business to throw out the 80-20 concept of 80% of a company's revenue comes from 20% of its products (Gassmann, Frankenberger, & Csik, 2014), in airline terms this could be seen as 20% of its routes. "The long tail is a business strategy that allows companies to realize significant profits by selling low volumes of hard-to-find items to many customers, instead of only selling large volumes of a reduced number of popular items...The strategy theorizes that consumers are shifting from mass-market buying to more niche or artisan buying" (Hayes, 2019). This business model could act as an inspiration for an airline to operate a large number of long haul niche routes that are not currently flown non-stop; these niche routes likely would not operate daily, but would operate on a lower volume of only once per week for smaller cities/airports and up to three or four times per week for more medium sized markets, especially during the peak tourism season. While passengers with flexibility on their travel days could fly in both directions on these non-stop flights, passengers that have little to no flexibility would then use a more frequent connecting flight for one of their round trip flights.

If an airline would have tried to introduce this business model more than thirty years ago, it would have been very difficult, if not impossible, to keep these niche long haul routes profitable, as the most efficient aircraft at those times did not have a low enough cask (the cost for each available seat per kilometer) to make low volume, long distance routes profitable. The long tail strategy is more possible today only due to the onset of new aircraft models such as the Boeing 787-8 and Airbus 321XLR (still in development), which are able to fly lower volumes of passengers at or below a cask that a higher volume aircraft have (when at equal load factors), such as the Boeing 747 and Airbus A380. For example, if there are 225 people that want to fly from Ljubljana to New York every week one way, (assuming yields are held constant) flying the Boeing 787-8 once per week instead of the Boeing 747 or Airbus A380 would be more likely to make a profit on that route since the aircraft would be at a higher load factor (around 92%) and would have overall lower operating and airport costs than a 747 or A380 would, especially with a load factor of less than 50% (Cummins, 2020; Lee, Li, & Song, 2019). If airlines would begin to use the long tail business model for long haul flights, it would relieve congestion delays at the largest airports in Europe and around the globe, and hence save airlines money, save passengers time, and be better for the environment; as new aircraft with their technological advances and cost savings increase in the future, it will only make the use of this business model for long haul flights more and more promising.

4.4 Bundling/Solution Provider 2.0 Business Model

One concept that could begin to enter into the aviation business could be that of the bundling business model or a further integrated version of the solution provider business model. While this is similar to the cross-selling business model that was analyzed in

chapter 2, it is not exactly the same; in that business model a business combines the sale of their product or service with that of mostly other companies' products or services, be it related or unrelated to the original product. In the solution provider business model example in chapter 2, it was seen that airlines are offering their customers the ability to book rental cars, hotel rooms, and others things from other companies along with their airline tickets. However, what if the airline who was offering its customers these options were to own those other products that were being bundled with the sale of the airline ticket? This potential business model could be integrated into any airline that wants to be more horizontally integrated, be it a legacy/network carrier or low cost carrier.

When it comes to the bundling business model, often companies either merge to be able to offer a new bundled package, or an existing company decides to horizontally integrate into other products. A simple example of companies merging to offer bundled packages could be seen in 2016 when Amis and A1 (then Si.mobil) merged to offer customers the ability to purchase their television, internet, telephone, and cell phone service together on one bill (Si.mobil, 2016). As of the writing of this thesis, there aren't any airlines in Europe, and probably the rest of the world, that own a car rental business, a tour/regional bus company, and/or a hotel chain. The bundling/solution provider 2.0 business model could enable airlines who would perhaps venture into these travel related industries to be able to capture more revenue from their passengers on their flights; this would help airlines diversify from the seasonality of the their industry, in addition to being able to find more profits that airlines are always searching for. The idea is that the more stages of a passenger's trip (flight, car rental/bus, hotel, etc.) that the airline has control over, the more power it would have compared to its peers, both airlines and the other travel related businesses, allowing it to be a price maker instead of a price taker. A very small step in this direction has been made in 2018, but it is not exactly by an airline. The airline alliance Skyteam has partnered with the car rental company Hertz to offer all frequent flyer members of Skyteam airlines the ability to get miles for every car they rent from Hertz; this is the first time a non-airline company had made such a partnership with an entire airline alliance (Skyteam, 2018).

5 POTENTIAL FUTURE AIR CONNECTIVITY FOR SLOVENIA

Since this dissertation has looked at possible scenarios that the aviation industry might take on in the future, it would be appropriate to do the same with regards to what the aviation industry, or more specifically what air connectivity will look like in Slovenia in the future. Especially since the collapse of Slovenia's flag carrier, Adria Airways, in the autumn of 2019, the aviation situation in Slovenia, is up in the air, no pun intended. Some companies or entities have talked about starting a new Slovenian airline, with those being Solinair, a cargo airline headquartered at Ljubljana Airport (EX-YU Aviation News, 2020), and Izet Rastoder, one of the largest banana traders in the world and the person who bought Adria's permits and licenses at auction in January 2020 (Gole, 2020), while Croatia Airlines has been in talks with the Slovenian Government and others about basing aircraft at the

Ljubljana Airport and operating non-stop routes from there to European destinations (Fabinger, 2020). Should none of these plans be enacted, there are a couple of different possibilities that could take place for Slovenia and its economy, with regards to its air connectivity to the world.

Assuming that the coronavirus of 2020 eventually subsides, with the aviation industry making a full recovery and that the Slovenian Government or airport operators do not offer any major incentives to airlines, it can be assumed that legacy/network carriers will continue to connect Ljubljana to their hub airports (e.g. Lufthansa with Frankfurt and Munich, Air France with Paris, LOT with Warsaw, etc.) as it was seen after Adria's bankruptcy. Although these legacy carriers reestablished vital connections to some of Europe's most important airports, they did so with less frequencies than when Adria Airways was present; some examples from the 2018-2019 winter season (when Adria was present) compared to the 2019-2020 (when Adria was not present) winter season include frequencies between Ljubljana and Frankfurt (21 vs 14), Munich (14 vs 7), Zurich (20 vs 7), Brussels (12 vs 6), while other routes were already being operated by competitor airlines (Slovenian Travel Press, 2019). In addition to this meaning less non-stop flights, it also means less seats available since most of these frequencies are operated with lower or similar capacity aircraft, overall less total connectivity, and flights that are not friendly to business travelers as the timetable for these new flights are mostly during the day (instead of the morning and the evening), which requires business travelers to stay overnight (instead of being able to fly in the morning and returning in the evening). On the other hand, low cost carriers could potentially increase their presence in Ljubljana, Maribor, and Portorož, however this is only likely if they are offered special benefits and/or subsidies to operate routes, as was the case when Ryanair flew between Maribor and London for a couple of months between 2007 and 2008 (Klipšteter, 2008). However, if low cost carriers were to add routes to/from Slovenia, this could conflict and create competition with their own operations where they already have a strong presence at neighboring airports in Austria, Italy, and Croatia.

If the Slovenian Government, the Slovenia Tourist Board, or the individual airports of Ljubljana, Maribor, and/or Portorož decide to be more proactive in attracting more airlines to fill the void left by Adria Airways or try to fuel the start of a Slovenian based airline, than the future of Slovenia's air connectivity could look vastly different than without any intervention. Referencing the long tail business model of secondary and tertiary airports having long haul non-stop flights that was analyzed in chapter 4, the Ljubljana airport (being the largest airport in Slovenia) could try to attract long haul non-stop flights with the help of incentives. The long haul flights could operate in two different ways, the first would not require an airline to base an aircraft at the airport as it could operate in a "W" pattern (a "W" pattern allows an airline to fly from its hub to a destination, then to a third airport, then back to the original destination airport, and finally back to the hub airport) very similarly to the manner in which LOT Polish Airlines operates long haul flights from

Rzeszów to Newark (in the United States). These once weekly flights were inaugurated on April 29, 2018 (although they are suspended due to the coronavirus pandemic), are operated with a Boeing 787-8 aircraft with its very low cask and with the aircraft being based in Warsaw (anna.aero, 2018). The second (and more costly option) would be to have an airline base an aircraft outside of its hub(s) and operate non-stop flights from that airport to its long haul destination(s) similar to how LOT operates from Budapest to Chicago and New York (in the United States) (Schlappig, 2017). This option however is more intended for airports that have higher volume demand, such as Budapest, since the aircraft would likely be entirely dedicated to that airport and need enough long haul destinations to fill an entire weekly schedule in order to have the aircraft fully utilized, hence making the base as profitable as possible. Since the aircraft would also be based, the airline would then also have to either ferry crews to the airport base, to operate these flights, or if possible, they would have to try and employ local crews to operate these flights, however this is not always easy to accomplish and can take some time; other base costs, such as base maintenance costs, parking costs, and potentially higher fuel costs could also lead to higher overall costs. Though both options could technically work, it is more likely that the first option would be more appropriate since Ljubljana is a small market similar to that of Rzeszów (with a metro population around 530.000 versus 780.000 respectively) and would not require as many long haul flights as would be required to base an aircraft in Ljubljana, as is the case for Budapest (which has a metro population around three million).

Looking from the perspective of Slovenia or from its airports, they could possibly position themselves, instead of the airlines, in a dual business model of trying to cater to both the higher spending passengers that fly on legacy/network carriers and the more cost conscious passengers of the low cost carriers. If a single entity operated and/or owned all three international airports in Slovenia (Ljubljana, Maribor, and Portorož) similar to that of Aena in Spain (Aena is the operator of all commercial airports in Spain), then Slovenia could position itself in a way that could cater to the individual airline business models. As it was shown in chapter 1, Slovenia has three international airports, with Ljubljana being the only one that has regularly scheduled commercial flights. All three airports are owned or operated by different entities with Ljubljana being owned and operated by Fraport Slovenia, Maribor being operated by DRI (a state owned corporation) and Portorož being owned by the MK Group (which also owns the nearby Kempinski Palace Hotel in Portorož). If these three airports were to work together or formally merge to resemble something similar to Aena in Spain, Slovenia could position itself as a destination that can offer airlines an airport that meets their specific needs. The Ljubljana airport, being the one that would cater to the largest business community and general population in the country, could be the airport where most legacy/network airlines would fly to in order to serve Slovenia, regardless of the higher airport costs. The Maribor airport, with its low airport costs and status as a secondary airport could attract low cost airlines (like it did with Ryanair in the past) which want access to the Slovenian market without having to pay the

high airport costs of a primary airport such as Ljubljana. Finally the Portorož airport, if it is allowed to extend its runway to be able to accept larger aircraft, offers the potential for seasonal/charter flights that could cater to airlines that want to capitalize on the airports proximity to the Adriatic coastal destinations of Portorož/Piran, Izola, Koper, and others in Croatian Istria. If these three airports would unite as a single organization, it could be more effective in attracting more airlines to serve Slovenia as a destination for both business and leisure passengers.

CONCLUSION

Over the course of this dissertation, the aviation sector has been dissected and analyzed, starting first with the history and beginning of the industry (both globally and specifically in Slovenia), continuing on with existing business models and their typologies that are currently being used by airlines, followed by an analysis of individual aviation business models and their determinants, continuing on with what existing business models could start to be used by airlines in the future, and then ending with a brief look at what Slovenia's air connectivity could look like in the future.

By starting this thesis with the history of the aviation industry and how the industry was started, readers were able to understand how the early airlines were founded and first started operating with linear routes, followed by point to point routes during the regulated period, and then after deregulation in 1978 having legacy/network carriers adopt the hub and spoke network structure with low cost airlines mostly opting to stay with the point to point network structure; this explained why airlines operate in the manner that they do today and why certain business models were incorporated into the industry, with many of them still being used today. An analysis also looking at the history of the aviation sector in Slovenia was also done in order to similarly understand why and how the industry got to the present situation. By then continuing on with general business models and typologies that are currently being used in the aviation industry, readers were able to connect how these business models became commonplace in the industry, for what reasons they were brought into the industry, and how much of a part they play into today's aviation world. Following that, today's most important airline business models (legacy/network airlines, low cost airlines, and ACMI airlines) and their determinants were examined through Osterwalder and Pigneur's Business Model Canvas to analyze and understand how they operate and what is most important to them when it comes to meeting their customer's needs; they were also analyzed as a group to see which of the Business Model Canvas' nine building blocks were important across all three airline business models. The next chapter looked at general business models that are not currently being used in the aviation industry, but could be in the future and in which airline business model(s) it/they could be employed in. The final chapter before the conclusion looked at what Slovenia's air connectivity could look like in the future now that Adria Airways declared bankruptcy and ceased operations in 2019. Through this process of analysis, this dissertation explains the

past, examines the present, and hypothesizes about the future of the general aviation industry both globally and specifically in Slovenia.

While it is yet to be seen where the aviation industry, with its different airline business models are headed in the future, one thing for sure is that the industry will continue to evolve in the future, just as it has from its beginnings in the first half of the 1900's, through the deregulation era in the second half of the 1900's, continuing on into the beginning of the internet era in the 2000's, and into today with legacy/network carriers, with the help of their ACMI carriers, battling the low cost carriers for every last passenger in the global aviation market. Only the future will judge which business models will become a thing of the past and which will play a critical role in how airlines market, price, operate, and execute in delivering flights to the global market.

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APPENDICES

Appendix 1: Povzetek (Summary in Slovene language)

V tej nalogi smo v razdelali in analizirali letalski sektor, začeni z zgodovino in začetki te industrije, tako globalno kot specifično v Sloveniji. V nadaljevanju smo najprej preučili obstoječe poslovne modele, ki se trenutno najbolj pojavljajo pri letalskih prevoznikih in njihove lastnosti, čemur je sledila analiza posameznih letalskih poslovnih modelov in njihovih ključnih delov. Sledilo je iskanje splošnih obstoječih poslovnih modelov, ki bi jih letalske družbe lahko uporabljale v prihodnosti in hitri vpogled v Slovensko letalsko povezanost in kako bi ta lahko izgledala v prihodnosti.

Z uvodnim delom, ki se posveča zgodovini in začetkom letalske industrije, smo bralcu predstavili potek ustanovitev prvih letalskih družb in vzpostavitev prvih linearnih letov, katerim so sledili leti od točke do točke (direktni) med reguliranim obdobjem, po deregulaciji leta 1978 pa je večina tradicionalnih letalskih družb uvedla mrežo letov po t.i. sistemu hub-and-spoke, kjer letala iz ali preko enega večjega letališča (t.i. vozlišča) letijo na manjša. Nizkocenovne letalske družbe so takrat v večini ostale pri sistemu letov od točke do točke. Ta zgodovinski potek nam pomaga razumeti zakaj letalske družbe delujejo tako kot delujejo danes in zakaj so bili določeni poslovni modeli vpeljani v letalsko industrijo in zakaj ti v uporabi ostajajo še danes. Analizirali smo tudi zgodovino letalske industrije v Sloveniji, da bi lahko bolje razumeli zakaj in kako se je slovensko letalstvo znašlo v trenutni situaciji.

Analizo smo nadaljevali s fokusom na splošnih poslovnih modelih, ki so v uporabi danes in na njihovih glavnih lastnostih. S tem smo bralcu predstavili, kako so ti modeli postali pogosti znotraj industrije, zakaj so se sploh začeli uporabljati in kolikšno vlogo igrajo v letalski industriji danes. V nadaljevanju smo se posvetili poslovnim modelom, ki se danes najpogosteje uporabljajo (tradicionalne letalske družbe, nizkocenovne letalske družbe, ACMI letalske družbe za zakup letala s posadko) in njihovim specifikam. Te modele smo obravnavali s pomočjo Osterwalderjevega in Pigneurjevega poslovnega modela *canvas*, s čimer smo želeli ugotoviti kako ti modeli delujejo in kaj je pri njih ključnega pomena za doseganje glavnega cilja - zadovoljitvi potreb potnika. Tri omenjene poslovne modele smo analizirali tudi kot enoto, da bi odkrili, kateri od devetih gradnikov *canvas* poslovnega modela je pomemben pri vseh treh.

Naslednje poglavje se osredotoča na splošne poslovne modele, ki trenutno niso v uporabi v letalski industriji, a bi lahko bili implementirani v prihodnosti. Ugotoviti smo želeli, kateri od modelov bi bil primeren za letalsko industrijo in za katerega od omenjenih treh tipov letalskih družb bi lahko bil uporaben. Zadnje poglavje obravnava zračno povezanost Slovenije in kako bi lahko ta izgledala v prihodnosti, glede na to, da je Adria Airways razglasila stečaj in prenehala z delovanjem v letu 2019. Skozi proces analize opišemo preteklost, raziščemo sedanost in domnevamo kakšna bo prihodnost letalske industrije globalno in specifično v Sloveniji.

Nihče ne ve, kakšna bo prihodnost letalske industrije in njenih poslovnih modelov, a brez dvoma se bo industrija še naprej razvijala, tako kot se je od svojih začetkov v prvi polovici 20. stoletja, skozi deregulacijo v drugi polovici 20. stoletja, preko internetne dobe v začetku tisočletja in v njeno današnjo obliko, kjer se tradicionalne letalske družbe ob boku s ponudniki ACMI letov borijo z nizkocenovnimi družbami za vsakega posameznega potnika na globalnem letalskem trgu. Samo čas lahko pove, kateri poslovni modeli bodo postali zastareli in kateri bodo igrali ključne vloge pri določanju stanja trga, cen, načina delovanja, organizacije in izvedbe letov na mednarodnem trgu.