INNOVATIVE APPROACHES FOR MAXIMIZING COMMERCIAL REVENUE

Jonathan Hanna

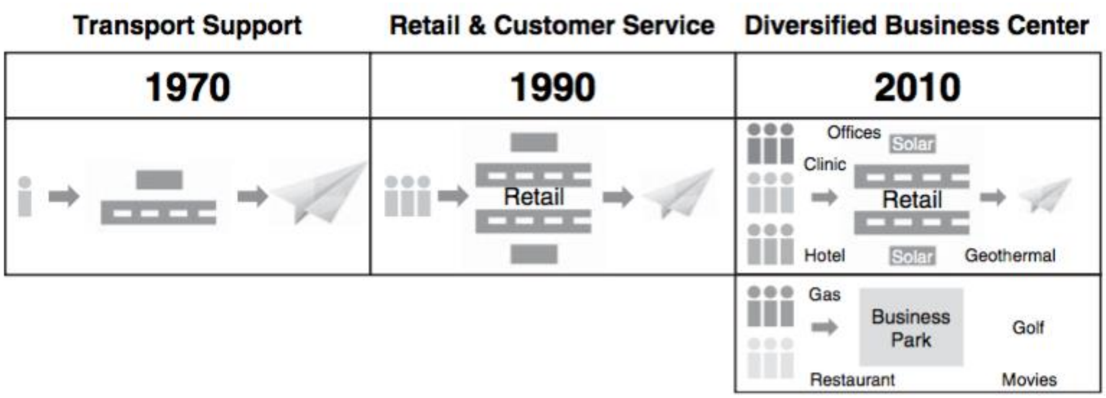
Nassau Airport Development Company
August 26, 2018

Table of Contents

Introduction

Heraclitus of Ephesus was a well-known Greek Philosopher most notably known for coining the phrase, the only constant in life, is change. Should you need a working example of his teachings, look no further than the aviation industry. In just over a century, we've seen the industry go from two brothers with a dream, test flying a glider which flew for only 120 feet on their first attempt, to flying seventeen hours connecting city pairs that were previously unimaginable. Let that *sink in* for a moment.

Not to be outdone, airports which started off as fairly simple structures and facilities (tents and armchairs) have now blossomed into multi-billion dollar properties spanning hundreds of acres providing a variety of different services and amenities. As airports continued to develop, so too did their revenue streams. As the following figure will show, in the 1970s airports depended heavily on aeronautical revenue however, as changes to the industry occurred, airports in turn had to adapt to the changing environment by adopting new revenue generation strategies.



Source: The National Academies Press "Airport Revenue Diversification"

This research paper focuses on the current and future state of the industry specifically as it relates to the diversification of revenue streams for airports. Additionally, ideas will be provided to assist airports in maximizing non-aeronautical revenue. It should be noted that all airports are different and as such, not all strategies may be appropriate for each airport.

The Past

Airports were not always looking to diversify their revenue streams. In fact, in years past, aeronautical revenue (fees associated with passengers and airplanes such as passenger processing fees and landing fees etc.) was the primary revenue stream for airports around the world. In recent years however, there has been a significant shift to non-aeronautical revenue which can largely be attributed to several key reasons:

- Economic Downturns – Aeronautical revenue is susceptible to air service or passenger fluctuations which can be attributed to significant global events such as terrorist attacks, wars, recessions etc. In the past twenty years, there have been several high-profile incidents that have negatively impacted the aviation industry. After the terrorist attacks on September 11th, 2001, the International Air Transport Association's article, 'The Impact of September 11th, 2001 on Aviation' states that "US Passenger traffic, measured by revenue passenger kilometers, declined 5.9% in 2001 and a further 1.4% in 2002. Airlines struggled to match this decline by cutting capacity by 2.8% in 2001 and a further 3.9% in 2002." The article then goes on to say, "After stabilizing in 2003, capacity growth resumed in 2004 and continued until 2008, when it declined owing to soaring oil prices and the global financial crisis. Capacity fell further in 2009, returning to 2000 levels." As airlines cut capacity to meet the shrinking demand, these declines ultimately had a domino effect on airports and their ability to generate aeronautical revenue. While it is forecasted that passenger growth will continue for years to come (especially in developing nations), airports also recognize that there is some level of risk and uncertainty given the current global landscape and as such, the need to diversify their revenue streams.

- Airline Competition – Prior to the deregulation act of 1978, airlines were mandated by government to operate certain routes, maintain certain fares and controlled market entry for new airlines. As such, aeronautical revenue was fairly predictable. With airline deregulation however, came increased competition between the existing airlines and the rise of low cost carriers such as Southwest and JetBlue. Airlines were suddenly free to expand into new markets, and expand they did. Airlines quickly setup what is now known to be the hub and spoke system, and airports that were designated as hubs, quickly experienced unprecedented growth. While these airports grew, other airports weren't so lucky and received diminished service, or lost service entirely as airlines dropped those routes for more profitable ones. As such, these airports had to look to new ways to supplement their revenue.

- Destination Competition – As airports continue to push for greater demand, airports face competition from other airports, as they compete for new airline service and increased frequency on existing routes. This is especially true in the Caribbean where tourism is typically the main driver of each country's economy.

- Uncertainty – Airlines are more cost conscious than they've ever been. If the route is not performing to their expectations due to low passenger demand or if they feel the aircraft is better suited on another route, airlines will focus on their bottom lines to the detriment of the airport's revenue stream.

- Growth – As a result of deregulation, competition between the airlines ultimately led to decreased airfares. As a result, passenger numbers increased substantially, especially at those airports that became hubs for the major airlines. While these airports enjoyed a substantial influx of passengers, these airports incurred further costs associated with accommodating these additional passengers (utility costs, additional staff, expansion costs to meet new demand etc.).

In short, as a result of deregulation, increased competition between airlines and other airports as well as the other factors listed above, airports were faced with unique challenges and were incurring additional risk due to uncertainty. Airports were now anxious and had to seek out new revenue streams to ensure their own survival. Necessity is the mother of all invention and during these worrying times, airports got very creative. Those airports that experienced diminished service or lost service entirely from the airlines began looking for and identifying ways to lessen their dependence on aeronautical revenue. Conversely, those airports that received a sudden uptick in passengers recognized that by offering passengers a variety of retail, food and beverage options and other services that they could supplement their existing aeronautical revenue. The tide began to shift.

The Present

Within a relatively short time frame, airports went from being overly dependent on aeronautical revenue to diversified business centers. Angela Gittens, the Director General for Airports Council International recently touched on this in a recent ACI media release. She stated, “The airport revenue model is becoming increasingly diversified and sophisticated. Airport operators have moved beyond being mere infrastructure providers for aeronautical activities to varied and far-reaching enterprises. Commercial or non-aeronautical sources of income such as retail concessions and car parking contribute to the diversification in an airport’s income portfolio and provide an additional cushion during adverse economic times.”

And there certainly have been some tough times. In the last twenty years, there have been several threats to the industry such as terrorist attacks, wars and most recently, the global recession. A perfect case study that shows how diversification of revenue streams can help airports during uncertain times is that of the Boca Raton Airport which is located in South Florida.

In an Aviation Pros article “Revenue Diversification is Key to Success”, it states that “The airport (Boca Raton) was wholly reliant on revenues generated from fuel flowage fees and rental income. Traditionally, the airport’s rental income was derived exclusively from aeronautical uses.” In their airport layout plan, the airport had two parcels of land marked for non-aeronautical revenue. Despite utilizing one of the parcels for the creation of a movie theatre and family fun park, the article states that “Even with the addition of these non-aviation uses, though, the majority of the airport’s rental income continued to be generated by aeronautical uses.” The remaining parcel of land was originally going to be developed into an airport administrative building, however, given the airport’s location and interest from external stakeholders, the management team decided to explore the idea of utilizing that parcel to generate further revenues as well. In the end, the parcel was sold to a furniture company which ultimately provided further revenue to the airport. The article concluded with, “In 2009, the economic slowdown was in full swing. Operations and fuel sales, long on an upward trajectory, began to flatten. While many airports scrambled to shore up revenues, the Boca Raton Airport was prepared. At the conclusion of the past fiscal year, approximately 55 percent of BCT’s revenue was derived from non-aeronautical revenue producing tenancies.”

While the goal of most airports is to have a balanced approach to their revenue streams (50% aeronautical/50% non-aeronautical), aeronautical revenues still account for the majority of most airports’ revenue however, non-aeronautical revenue has risen considerably. The following infographic taken from ACI’s “Airport Economics at a Glance” shows that non-aeronautical revenue and non-operating revenues account for 44% of the worlds airports’ revenue.

There is a significant push by airports around the world to increase that percentage even higher. Concessionaire analyzer states, "This source of revenue tends to generate higher net profit margins, whilst providing airports with more diversification of income streams." Typically, global distribution of non-aeronautical revenue is as follows:

As indicated in the figure above, Retail Concessions, Car Parking and Real Estate continue to be the largest revenue generators for airports as it relates to non-aeronautical revenue. The other category is typically comprised of other smaller revenues such as Food & Beverage, Advertising etc.

Passenger volumes have been soaring in recent years as a result of falling fuel prices, greater wealth and the rise of low cost carriers which accounted for roughly 24% of the world's traffic at the end of 2016. With the increased number of passengers, airports have expected revenues to be soaring, but that hasn't necessarily been the case. In fact, the reverse has happened. In an Aviation Pros article titled, "Airport Operators Should Prepare for Retail and Mobility Disruption", it states "In 2017, airport revenue per passenger averaged $20 – down from $21.22 in 2014 – according to the Airports Council International (ACI), the trade body representing over 800 airports and above 70 percent of global passenger traffic. And given that the ratio between aeronautical and non-aeronautical revenues has remained the same, it appears that airports' revenue growth is falling across both commercial and aviation businesses." While airports have certainly benefited from increasing their non-aeronautical revenues, challenges were again on the horizon.

While non-aeronautical revenue has become a vital income source for airports, it is still largely passenger dependent. Car parking, which is typically noted as a significant non-aeronautical revenue generator has faced increasing pressure due to the rise of ride sharing apps such as Uber and Lyft and off-airport parking options. Passengers and airport users have realized that it is much cheaper to utilize these modes of transportation versus driving their own personal vehicles and parking at the airport. The Economist, in an article titled "Airport Profits: Ready to Depart" states, "In the past year, revenues from parking have fallen short of forecast budgets by up to a tenth, airport managers say, and next year they expect worse results."

Retail concessions are also facing similar threats from several different factors. Following the events of September 11th and a string of other notable security threats, thorough security screening is a necessary evil. Passengers are faced with lengthy queues, which ultimately increases passenger fatigue and stress levels while also reducing dwell time – the amount of time passengers have in the terminal to shop and dine prior to their flight boarding. SITA, a company that focuses on air transport communications and information technology states that if a passenger spends an extra ten minutes in a security line, it reduces the customers spend by as much as 30%. Multiply that by the number of passengers utilizing a particular airport and the impact is quite substantial.

Additionally, airports have been relatively slow to change their approach to retail. We've all experienced the walkthrough duty-free stores that are so *conveniently* located around many of the worlds airports. The basic premise of this strategy is simple. With all the passenger traffic routed through the duty-free, passengers are more likely to make spontaneous purchases. While this has been successful for airports, the sustainability of this model has come into question with the rise of online shopping companies like Amazon and the changing consumer behavior of passengers. Amazon and other large digital retail giants have essentially shrunk the world, providing consumers with a large variety of products which can be on your doorstep in less than a day. Additionally, they have also changed consumers expectations as an article in ACI's magazine Airport World titled "What Is in Store for Airport Retail" states, "digital (shopping) continues to raise consumer expectations to the extent that today's consumer expects to be able to demand what they want, whenever they want, however they want."

The Future

So where does the industry go from here? While airports have definitely come a long way as it relates to diversifying their respective revenue streams, adaptation to a constantly changing environment is necessary if these airports want to continue being successful. It should be noted that each airport is different and that there is no single solution or strategy that can be implemented and thus, airports will need to continue to diversify their business. This section of the paper will focus on what I believe to be the future evolution of revenue diversification at airports around the world. Additionally, I will also provide ideas that I believe will assist airports in maximizing their non-aeronautical revenue.

Data will Drive Revenue in the Future

As we move into the future, the decisions made by airports as it relates to generating non-aeronautical revenue **will** be data driven. The first thing an airport should do when developing a new strategy to increasing their non-aeronautical revenue is to collect ***meaningful*** data. Data collection isn't something new to airports as most airports receive monthly sales data from concessionaires, however, in today's ever-changing environment, this is inadequate as no meaningful analysis can take place. Airports need to understand the passenger demographics, potential chokepoints that may reduce dwell time, passenger behaviors, passenger flows etc. Collecting, analyzing and sharing of this data will be critical to the growth of non-aeronautical revenue at airports.

ACI shares this view and in their article titled, "What Is in Store for Airport Retail" they state, "The growing sophistication of data capture in airport retail opens up innovative ways to support sales, through demographic profiling, destination spend analysis, or tracking passenger flows around the terminal through beacon and Wi-Fi enabled technology." By better understanding the passengers that utilize our respective airports, we can ensure that we offer the right products, to the right passengers, at the right time. Adopting and leveraging the right technologies will be vital to maximizing revenue in the future.

Equally important to the collection and analysis of data is ensuring that the airport employs persons who have the right skills to accurately decipher the data, after all, what good is the data if it can't be understood and applied to good decision making? Additionally, what is also critical is that once the data has been analyzed, the information is shared among all relevant stakeholders. A common issue most airports face occurs when work or decisions are made in isolation. In order to maximize revenue, it benefits both retailers and the airport operators to develop meaningful partnerships.

Partnerships

And speaking of partnerships, the key to boosting non-aeronautical revenues in the future is partnerships between airports and other airport stakeholders. One successful partnership that has massive potential is between that of airports and airlines. The fact that both presently work hand in hand daily, make the two a natural fit. By integrating their sales channels, airports and airlines can create purchasing opportunities that currently are non-existent today. A basic problem airports face today is there are tons of missed retail opportunities. Passengers that have tight connection times in between flights or face long queues (thus reducing their dwell time) simply don't have the time to shop. However, once passengers have settled on an airplane, they do have time to browse airport retail offerings. Below are some potential ideas where partnerships between airports and airlines can flourish:

1. Airplane to Airport – Once inflight, passengers will have the opportunity to view retail offerings (via the onboard inflight entertainment system) provided at the destination airport. Once the items have been purchased, the passenger will collect the product at the gate or at an arranged collection point.

2. Airplane to Airplane – For those passengers that are connecting, again by utilizing the inflight entertainment system, passengers can purchase items at the in-transit airport. Once the passenger has landed and proceeded to their gate, their purchase will be waiting for them.

3. Home to Airport – Prior to even arriving at the airport, passengers could utilize an online shopping website, allowing them to purchase products while still in the comfort of their own homes. Once they arrive at the airport, they can collect their purchase at the gate or another prearranged collection point. Airlines would advertise the website when prompting passengers to check-in for their flights or providing updates etc.

4. Airplane to Home – In this instance, passengers on board an aircraft can purchase airport retail items and have them shipped directly to their homes.

While there would need to be some discussions on logistics, use of adequate technology and ensuring adequate profit sharing between the two entities, it is my belief that the benefits definitely outweigh the challenges. While this section focused on the potential partnership opportunities between airports and airlines, partnerships between airports and other stakeholders such as concessionaires, food & beverage providers will be equally as important to driving greater non-aeronautical revenues.

Enhancing the Passenger Experience through New Technology

As stated earlier, consumer behavior has changed drastically in the last twenty years as the consumer base is as sophisticated as it has ever been. In the future, the focus will be on providing a unique traveling experience for passengers. The timing will bode well for airports as millennial travelers replace the baby boomers and numerous studies have shown that millennials are more likely to spend money on experiences rather than tangible products. By creating this positive experience for our passengers, data has shown that they are more likely to purchase retail and spend more money on average when compared to unsatisfied passengers. In fact, in an article titled the "Airport Retail Revolution" by ICF, it states "Research has shown that, for every increase in customer satisfaction of 0.1 point on a 5-point scale, non-aeronautical revenue increases by $0.08 per enplaned passenger."

In the future, airports will no longer be seen as just transportation hubs where you can catch a flight but rather, as an experience in and of itself. The shift is already happening. Singapore's Changi Airport consistently wins numerous awards for its stunning architecture, top of the line dining options and world class retail offerings. In 2019, the airport will open up the Jewel, a futuristic garden (which will be the largest indoor garden in Singapore) that will be the home to new local and international food & beverage options, entertainment for both kids and adults, and new sights such as the world's largest indoor waterfall. Not to be outdone, Munich airport features an annual wave pool where passengers and locals alike can learn to surf. If surfing isn't your forte, head over to their beer garden where they brew several different types of beer. In Punta Cana, passengers will be allowed to take a swim in their pool prior to boarding their flights. All of these experiences leave passengers with a lasting positive experience, a sense of relaxation and tranquility that supports their interest in strolling through the facilities and will further help to boost sales. While these radical ideas are presently the exception, in the very near future they will be the norm.

Additionally, by leveraging new technologies, airports will have the ability to provide a personalized airport experience to their passengers. As stated earlier, transiting the airport environment can be an anxious and stressful experience as passengers combat long check-in and security queues. As such, airports are now looking to technology to assist in assuaging passengers' fears. Through the use of new technology (such as beacon technology that utilizes Bluetooth), airports will have the ability to keep passengers informed of potential delays, security wait times and any other vital operational information. This sharing of information will allow passengers to make informed decisions that they were previously unable to do.

Enhancing Existing Revenue Streams

In the coming years, existing revenue streams such as Parking, Food & Beverage, and Retail will also be enhanced to not only meet new customer expectations but to further drive revenues. Below are some of the enhancements that will be made in the future based on each sector.

I. Parking

As mentioned earlier, parking is one of the largest non-aeronautical revenue generators for airports which is especially true in the Caribbean as public transportation is often not as developed and can be unreliable. In the future, a shift to a yield management system for parking may assist airports in generating further revenues. Static pricing has been employed at airports for many years however, yield management (which has been employed at airlines and hotels for many years) focuses on providing the customer with the right product at the right price by utilizing data such as seasonality, demand etc. Simply put, if the demand is low at any particular time and there is a surplus of parking spots, the cost will automatically be lowered to entice drivers to park. Conversely, if the demand is high, drivers can expect to spend a higher amount to park their vehicle as the airport's parking inventory tightens. In an online article written by Airport Improvement titled "The Time has Come for Dynamic Parking Pricing", it states "With dynamic pricing, airports can finally earn the actual value of their parking assets. Experience shows that dynamic pricing can increase parking revenues by as much as 35%."

Additionally, airports can derive further revenue from value added services such as valet parking, car washing services, delivering vehicles to be serviced just to name a few. Additionally, airports have also gone digital allowing persons to pre-book their parking spots before they leave the comfort of their homes. Dynamic pricing and additional services allow the airport not only to increase revenue but provide passengers with a better experience by providing them with convenient stress-free options.

II. Food & Beverage

While Food & Beverage have not been as big a revenue generator typically as retail and parking, there is reason to believe that it may change in the future. As stated earlier, consumer behavior has changed considerably from years past. Today's passengers want an experience but most of all, they want convenience. For passengers that may have tight connections, running late, or simply want to order ahead of getting to the airport, airports will provide passengers with an opportunity to order food through their website/app and allow it to be delivered at the gate. By providing passengers with this service, airports will have yet another opportunity to increase sales.

Of course, as has been the case for more than a decade, it will continue to be important for airports to provide the domestic and global brands of food and beverage outlets with which passengers are familiar, which encourages them to consume based on knowledge of and comfort with the brands.

III. Retail

Retail will also see major changes in the coming years. As airports begin to generate more data, I'm of the belief that static displays in stores will go away and lead to more dynamic store fronts. The inventory will change based on flight schedules to better appeal to the right people at the right time and to provide the right product. It will be vital for airports and concessionaires to become partners and encourage information sharing in order for this to be successful.

Going forward more and more airports will utilize airport apps and websites to drive retail sales. With industry disruptors like Amazon continuing to set the standard as it relates to online shopping, airports will need to offer different retail approaches in order for them to be competitive. By adding valuable services such as the option to purchase retail prior to arriving at the airport or having it delivered to your home, airports will further maximize retail sales. What is vital to this however is price transparency. Customers are as cost conscious as they've ever been and aren't afraid to shop around until they get the very best price. The bottom line is that in order for retail providers in airports to remain competitive, they must offer prices that are competitive in order to drive sales.

Land Acquisition and Development

Similar to the Boca Raton caste study utilized earlier in this document, another key factor that can help to drive revenues is land acquisition and the subsequent development for commercial use. Airports around the world have recognized that there is significant revenue generating potential from utilizing land for commercial purposes. In an article titled, "Airports are Developing the Land Past the Runways" written by the New York Times, it states "There's been a paradigm shift. Airports are looking at vacant land as an asset." The report states that "As airports open more of their land to commercial development, (airports go) from just being infrastructures to commercial enterprises." Dallas Fort-Worth which has approximately between 4,000 and 5,000 acres available for commercial development has several car dealerships and golf courses on its land which all pay rent to the airport. Vancouver Airport has had a huge upscale outlet mall built on some of its available land. These two examples support the trend toward the creation of an "aerotropolis" * where small cities are being built around airports. The degree to which the airport controls the land on which the commerce sits is the degree to which it generates substantial and sustainable non-aeronautical revenues.

In Denver, farmers are paying the airport to plant crops on the airport property. Some airports have even started drilling for natural gas and utilizing land for renewable energy. While the airports incur some risk as they move towards nontraditional business opportunities, with careful planning and proper analysis of available data, this risk can be minimized.

*An **aerotropolis** is a metropolitan subregion where the layout, infrastructure, and economy are centered on an airport which serves as a multimodal "airport city" commercial core.

Renewable Energy

Lastly, one area where significant inroads will be made in the coming years as airports look to maximize non-aeronautical revenues is in renewable energy. As stated earlier, non-aeronautical revenue is still largely passenger dependent and as such, is subject to fluctuations in passenger movements. By utilizing renewable energy sources such as solar, wind and hydro, this provides airports with another option when diversifying their revenue streams.

The Caribbean is an ideal place for renewable energy development and there is significant potential for airports. In The Bahamas alone, we experience over 300 days of sunshine every year. At present, the Lynden Pindling International Airport is looking to create a solar farm to not only produce sufficient energy to run the airport, but to store and sell any surplus energy back to the local power company. Not only would this provide an additional source of revenue for our airport, but it would also increase the margins the airport operates within as it would also be lowering the electricity cost.

Other airports throughout the Caribbean are also actively pursuing the use of solar panels and reaping the benefits. Antigua's V.C. Bird International airport recently installed solar panels and in six months alone, generated over $1 million dollars. Not to be outdone, Jamaica's airports are currently utilizing solar panels at the gates to assist in powering aircraft at their jet bridges thus lowering their operational costs.

Conclusion

In the future, non-aeronautical revenue will continue to be of extreme importance to the overall business model of airports. No two airports are exactly the same and it is important for each airport to identify potential revenue streams that may assist them in their goal of maximizing non-aeronautical revenues. As consumer behavior continues to change, as expectations continue to rise, and as new ideas/technologies are ushered in, airports would make Heraclitus of Ephesus proud. Airports have and will continue to evolve to meet the changing environment. And they must. Their success depends on it.

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