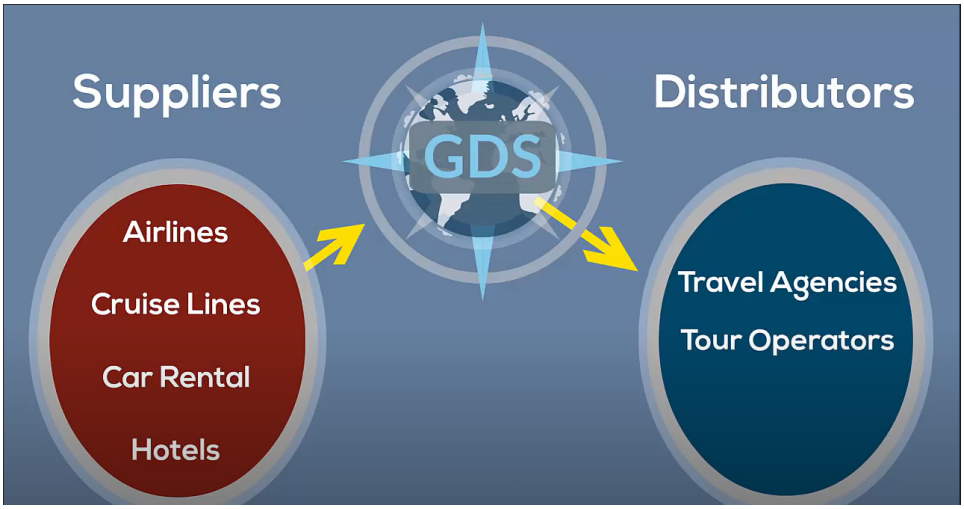
Airline Industry, From Zero to Hero

The Absolute Minimum Every Amadeus Employee, Positively Must Know About the Airline industry (No Excuses!)

What is a Global Distribution System?

A GDS is an online network for companies within the the travel industries. It can connect travel agencies, cruise lines, hotels, car rentals companies and airlines. A GDS takes the content from suppliers and makes it available to distributers.



let's take the example of airlines as a supplier, and a travel agency as a distributor. Airline have reservation systems that keep track of their inventory (number of seats that are booked, or available to book). The GDS has access to this inventory through a contract. The GDS then gives this access to travel agencies. If a travel agent were to book a seat, the GDS makes sure that the information is sent to the reservation system. And the inventory is updated.

Just like in this airline example, a GDS has access to many other suppliers. Let's see how that comes into play in a more thorough example: Let's say you want to book a flight from Atlanta Georgia in the USA, to Cape town South Africa. You need a hotel and a rental car for the three weeks you'll be there. You call your travel agent (the supplier) with that info/demand. **The travel agent uses the GDS to have access to thousands of flights, from hundreds of airlines, and thousands of hotels and car options** for you. The GDS filters all these options to give the travel agent the best set of travel options. After reviewing these options with you, **the travel agent can use the same GDS to book the flights and reserve the hotels and rental car**.

Because of this vast network of suppliers through the GDS, you can have access to the best possible travel options through your travel agencies. As more suppliers and distributors pop up, the need for access to the expanding network continues to grow. A GDS help suppliers reach more travelers, and helps agencies give travelers more options.

Summary

- A GDS is an online network for travel suppliers and distributors.
- The GDS has contracts with suppliers to access their inventory.
- The GDS gives this access to distributors like travel agencies.
- Travel agencies can use the GDS to both search and book these travel options.

The History of Selling Flights

1950s, Sabre's early stages

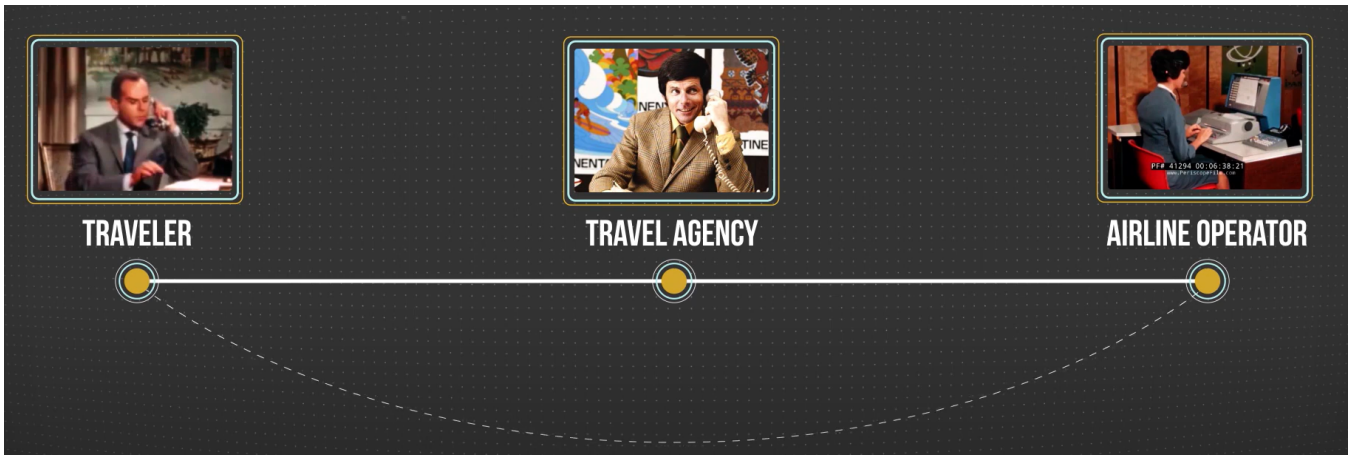
In the post world war, civil aviation is on the rise. ICAO and IATA are already shaping the rules in the increasingly congested skies. On the ground, airline agents are overwhelmed trying to book flights using "lazy Susans", each booking took 1.5 hour! Stroke of luck: American Airlines and IBM executives meet in an airplane and decide to develop a Semi-Automated Business Research Environment (SABRE), the first airline central reservation system (CRS), that went live in 1964.

1960s, democratization of CRSs

Built on two IBM 7090 computers, SABRE allowed to store all flights reservation data, and share it across operators: booking took a few minutes! This gave a AA a huge advantage, that all other airlines wanted. This demand pushed IBM to develop a standardized CRS for multiple airlines across the US and Europe.

1970s-1980s, the birth of GDSs

Thanks to the CRSs, data exchange became way faster: Sabre alone could process up to 84000 transactions per day. But there was another bottleneck: travel agencies. To book a flight, the traveler had to call a travel agency, and stayed on hold while the agent calls the airline. The airline operator uses a CRS to book a flight, confirms with the travel agent which only then passes the information to the traveler.



To resolve this bottleneck, two major airlines in the US (AA and United Airlines) opened the access to their respective CRSs to travel agents: SABRE and Apollo terminals appeared in travel agents offices. Travel agents could now use the cli to directly access flight information and book tickets. However, the terminal forced the agency to distribute only one airline.

In 1974, the deregulation of the airline industry by the US government and later in Europe, combined with the drop of fuel prices created favorable conditions for new players to enter the airline industry. It became then profitable for CRS owners to let other airlines into their systems. Distributors were no longer locked into one airline with their terminal. But CRS owners had an unfair advantage as they were charging agencies and airlines to use their systems (*I don't get why CRS owners would charge TAs instead of incentivizing them to use their CRS*). On top of that, AA was always showing its flights on the top of the lists at each flight search.

These questionable actions called for immediate government regulations which caused airlines to separate from CRSs (*This also I don't understand, how can the government force AA to separate from Sabre and lose its ownership when it is AA that created it?*). CRSs became a standalone businesses. Since their added value comes from having the most thorough catalogue of flights, they quickly became global and evolved into what we call Global Distribution Systems: GDSs.

1990s, The boom of internet: the market place becomes virtual:

Boom of internet shifts the paradigm, the aviation market place becomes virtual with the appearance of the first OTAs (Travelocity, Expedia...) and electronic ticketing. Distribution cost via a website was as little as $0.25 vs $8 via a traditional agency. This fueled airlines and GDS interest in developing websites and travel agencies.

2000s, Metasearch engines

Kayak and Skyscanner are born.

The difference between a metasearch engine and an OTA:

> *The main difference between OTA's and Metasearch is that the guest actually books through the OTA and pays them for the stay and not directly to the hotel. By maximizing your hotel brand's search engine ranking and web presence you cut out the OTA middle man and get direct bookings.*

2010s-Today, one in all platform

Everything is in the title: companies try to create products that deliver a one in all travel toolset.

Amadeus vs Travelport vs Sabre: Explaining the main GDSs

Context information on how and why GDSs became so important

The video starts with the case of Southwest which until recently avoided passing by GDSs to sell its tickets. When it finally caved in, Southwest predicted an additional revenue of $20M. This introduction served to ask the following questions: **How come the industry depends so much on the GDSs, and if so, why was Southwest so reluctant to do business with them?**

There are a dozen GDSs in the world, but 98% of the market is shared by the big three: Sabre, Amadeus and Travelport. So let's focus on them.

In the traveling business, direct sales are paramount, there are no commissions to pay, and you control the relationship you have with the customer. But for airlines, building these relationships is next to impossible. GDSs help them reach a great number of customer because they have a vast network. However, when they send their inventory data to a GDS, they lose control over how this data is displayed. Also, they lose ancillary sales they could have made on a native website. That's the reason Southwest dragged on the GDS connection.
Ok, GDS provide a bigger market place, but they have negative points as we mentioned. But, how come GDSs have this reach that airlines don't have?
Why do you need a third party to sell tickets? Historical reasons! At first, it was airlines that owned the GDSs, previously known as CRS. Conflict of interests arose and governments decided to separate CRSs from airlines: that's how GDSs came to be. Since CRSs were a well established system used by all the actors of the travel industry for booking distribution, there was no way/no time to invent a new system. Everybody continued to use them. The only thing that changed is that GDSs became a separate business and airlines lost their ownership of it....

GDSs now, and focus on the big three (warning, sparse information)

- GDSs aggregate information on more than flights: they cover hotel accommodations, car rental options, ferry tickets and so on...
- One of the main things GDS clients want to know about are APIs. APIs dictate what type of data you'll be able to request and receive form the source. It's a toolset that makes a booking website rich.
- IATA developed in 2011 the NDC standard for airlines to bypass GDSs (Lufthansa example). But GDSs caught up to the trend and developed their own NDC solution: They developed retailing platform between an airline's PSS and the GDSs itself. This way, airlines finally get the flexibility they wanted on how their distribution system is displayed and are able to gather customers data, without having to build their own platform. ALTEA is Amadeus's solution for NDC support.

What is IATA and how does it work?

A little bit of historical context

At the end of WW2, more and more ex-military air crafts start to transport people and cargo across the ocean : skies have never been this busy.
Busy skies call for regulation: 1944 the Chicago convention gathered 51 different countries to discuss the future of civil air transportation rules, the International Civil Aviation Organization (ICAO) was born.
Very quickly, the ICAO becomes a UN agency. While it is drafting the first set of rules, airlines are already running scheduled flights that are not really supervised. The air industry is very complex, the ICAO needs help: who better to help them than the airlines themselves? The International Air Transport Association (IATA) is created. Formed in 1945, it holds a convention two years later during which airlines reach agreement on 400 resolutions concerning all thing air travel: fair calculation, revenue allocation, baggage rules and even ticket design.

What authority does IATA have, over who, and how does it apply it?

Let me preface this by saying that I'm not a 100% sure of my answers to this question. But here what I was able to gather form the video and a quick google search.
Let's make it clear with this Q&A from google:

> *Is IATA a regulatory body?*

> ***It's a policy NOT a regulation**. The International Air Transport Association (IATA) is a trade association of the world's airlines. While IATA itself cannot enforce the regulations it has created, the airlines and the Department of Transportation (DOT) through the Federal Aviation Administration (FAA) can and do.*

With that in mind, let us proceed to what is said in the video: to this day, IATA is still responsible to design and implement standards accepted by all air travel actors everywhere. It is comprised of 290 airlines in 120 countries which make up for ~82% of all scheduled air traffic. Moreover, its governing bodies and advisory councils are all airline representatives. So in a sense (this is just my understanding and should be taken with a grain of salt), it is kind of an "airline-o-cracy": ruled by airlines, for airlines... I insist on the kind of. And what about the 18% airlines remaining? Aren't they regulated by IATA? Indirectly yes, and despite their will: Because IATA members constitute the majority of airlines, the regulations they set are implemented by the majority. These regulations become then standards that other actors of the travel industry (airports, travel agencies etc...) expect and base their workflow on. So even airlines that are not signed up with IATA find themselves obligated to comply with IATA regulations to be able to distribute tickets and run interline flights. Amongst these regulation are IATA designator codes, IATA accounting prefixes, baggage tags, and location codes.

Ruler or Enabler?

Although the job of IATA is to come up with rules and regulations to be implemented by all. It is, all things considered, a body made to protect airlines' interests as well as improve the traveler's experience: As said before, its governing bodies and advisory councils are all airline representatives themselves! A great example for that is the gradual spreading of NDC solutions or New Distribution Capability. This program was launched by IATA to help airlines distribute their services and control what is shared on booking websites, without the limitations imposed by GDSs (more on this in the following sections). A not so great example was the new regulation on luggage sizes that forced customers to buy new suit cases: these makes the customers unhappy and thus the airlines as well (*But we said that IATA is basically airlines ruling themselves, why would they shoot themselves in the foot by setting such a guideline? That I don't know... Dear reader, if you know, don't hesitate to leave a comment*.)

What about the commercial side?

We talked about codes that helped IATA regulate the way flights are operated and airports organized. Do they have some skin in the game when it comes to the commercial side of aviation? You bet! IATA does it by controlling the relation between airlines and travel agents. We now that in order to book a flight, travel agents have to access airline inventories. To be able to do so, travel agents have to be IATA accredited! This ensure the airlines that they can trust the distributor with their inventory. IATA also processes all sales reports between agents and airlines via its billing and settlement software.

How airline distribution works | GDSs | New Distribution Capability (NDC)

The first part of this video has been covered in the other sections. New information start at 3:45:

What's wrong with GDS-centered distribution?

1. Lack of valuable customer data: as GDSs process bookings, most of the information remains in the hands of middlemen, and doesn't allow airlines to track customers and eventually adapt to their preferences.
2. Limited ancillary support (this point comes again and again, but when I book a ticket, I don't get this impression at all...): The main source of profit for many airlines comes from ancillary services sales. GDSs APIs send only key booking information to OTAs offering little to no support for ancillary sales.
3. Airlines don't have control over their inventory and don't get to choose their distribution channel.

Airlines' response

Examples:

- Lufthansa added in 2015 a 16 euros fee to the ticket price if the booking is made via a GDS. This is to encourage people to buy tickets directly from their websites.
- Ryanair avoids GDS distribution entirely as discontinued its contract with Amadeus in 2017

IATA's response

In 2015 (another video says 2011), IATA introduced a new API standard for airlines called NDC or new distribution capability. It allows airlines to build their own API and suggest them to GDSs or entirely bypass them by connecting to OTAs directly. NDC enables rich content, wide ancillary services support and even personalization for every customer.

GDSs' response

As airlines are slow to change, GDSs already started to offer NDC support!

Glossary

- IATA designator codes: universally accepted airline designator codes required for reservations, schedules, ticketing, documentation and basically everywhere the information about the airline or its flights is shared. This two character identifier is one of the industry's pillar: used everywhere and by everyone...You must get one even if you're not an IATA member.

- IATA accounting or prefix codes (PAX): All accounting document used in ticketing or transaction operations use them. They're integral for computer systems to identify passengers and cargo.
- Baggage tag issuer code: 10 digit numbers printed on bag tags for easier baggage handling at airports are issued by IATA
- Location code: city codes and airport codes are issued by IATA
- CRS: Central reservation system
- SABRE: Semi-automated business research environment

Q&A

- Who pays the GDS?
  Each time a travel distributor books a travel option from a travel supplier through a GDS, the travel suppliers gives a certain amount of money to the GDS.
- Why don't suppliers go directly to the distributors or (travelers even) instead of passing through a GDS and having to pay a middle man?
  They can, but it's not in their best interest... Southwest operated that way until 2020! But, GDSs have an immense reach to travel customers that a single air line cannot have. Access to this network is far more valuable in terms of revenue than not paying a GDS. When it finally entered the GDS world, Southwest estimated that it would derive a whopping 20M dollars in additional revenue in that same year!
- How does this network that a GDS provides translates itself concretely? is it a website, is it a terminal, how does it work?
  Desktop application or a terminal for distributor. Equivalent for airlines to push their inventory. We do the link: fetching inventory from airlines, fares from a third party (ATPCO), schedules from a third party, package all of this and present it to OTAs as a result of their queries.
- What's the part about IT solutions for airlines? How did this part came to be? How much of Amadeus's revenue comes from GDS activity and how much comes from IT solutions sold to airlines?
  Altea, I don't know, and I don't know.
- Do you know the difference between an OTA and a metasearch engine?
  Metasearch engine do search on offers of OTAs. example of metasearch engine: Kayak, example of OTA: opodo, travelocity...
- What is ALTEA?
  Regroups our different offers in our role as an IT solution provider part.
- Tell me everything about how Amadeus supports NDC.
  The paradigm changes: now the airlines don't push their inventory, they wait for us to query for packaged offers in the NDC format. So we know how ask for offers in NDC format. Is this it? don't we have an IT solution to help airlines package their offers easier? What are the other NDC features we offer?
- How come Lufthansa went on to use its own NDC, isn't it one of the founding airlines of Amadeus? More generally, what is the nature of the relation between the airlines that founded the GDSs and these said GDSs now?
  The separation occurred way before the NDC standard appeared... For the second part, now they are our customer, and because we have this historical relation ship, they might be more keen to do business with us, they know us and we know them....
- What do we provide for hotels? Access to our network as a GDS or IT solutions as a software company?
  Both!
- How come Fares and Schedules are separated from flight availabilities? Shouldn't the airlines decide the hours of their flights and the prices of their tickets?
  About fares, airlines do decide fares and publish them in ATPCO (Airline Tariff Publishing Company) which a centralized platform for fares of all flights.
- What is this deregulation of airline industry thing?
  Before 1974 in the US, and 1980s in Europe, traffic was regulated by international conventions. An example of these regulations is the fact that for each route, only two airlines were allowed to operate it.