

# ROUTE TRAFFIC FORECASTING DATA, TOOLS AND TECHNIQUES

Data Analytics

MODULE 2

- Assess data sources to quantify and describe our market
- Identify where information is available, who supplies it
- Understand Pros & Cons of most used data and technics
- Assess new technics & technologies
- Strengthen your Research & Analysis team!



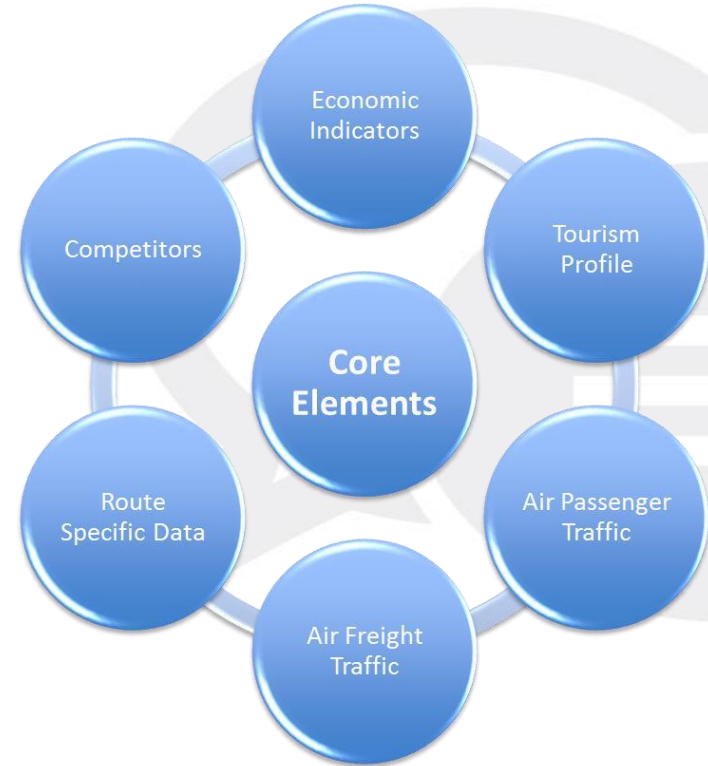
- Census, Government, CAA, Tourism Authority, Tourism Associations (PATA, WTO), etc
- Local/regional stakeholders – Chamber of commerce, council
- Google – Public data
- Pax surveys
- Airport pax data – traffic, car park, retail transactions
- Social Media - Facebook, Twitter, LinkedIn
- Industry data - Airport IS, MIDT, OAG, SRS Analyser, Sabre ADI
- New distribution data – Tripadvisor, Skyscanner search

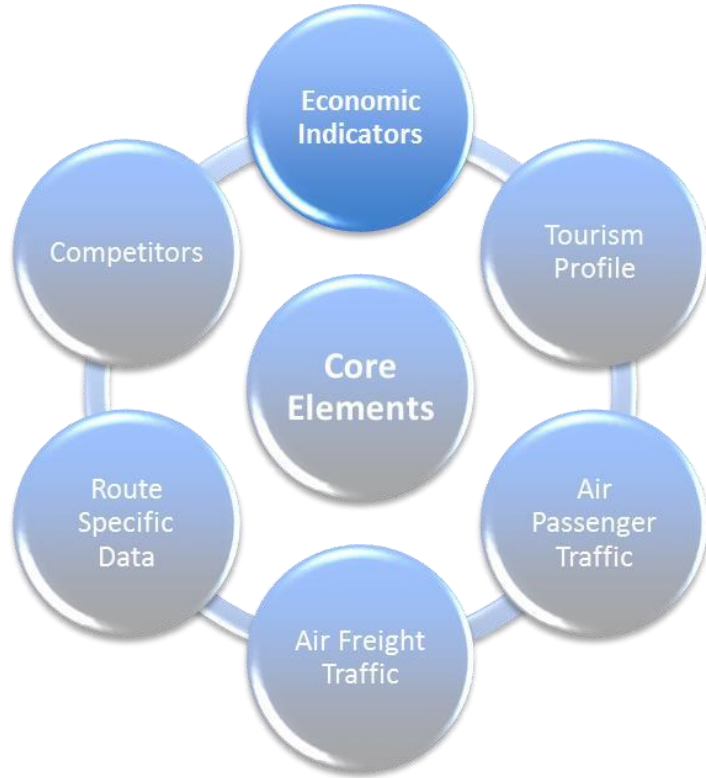


# UNDERSTANDING AND TRYING TO QUANTIFY THE MARKET

## MODULE 2

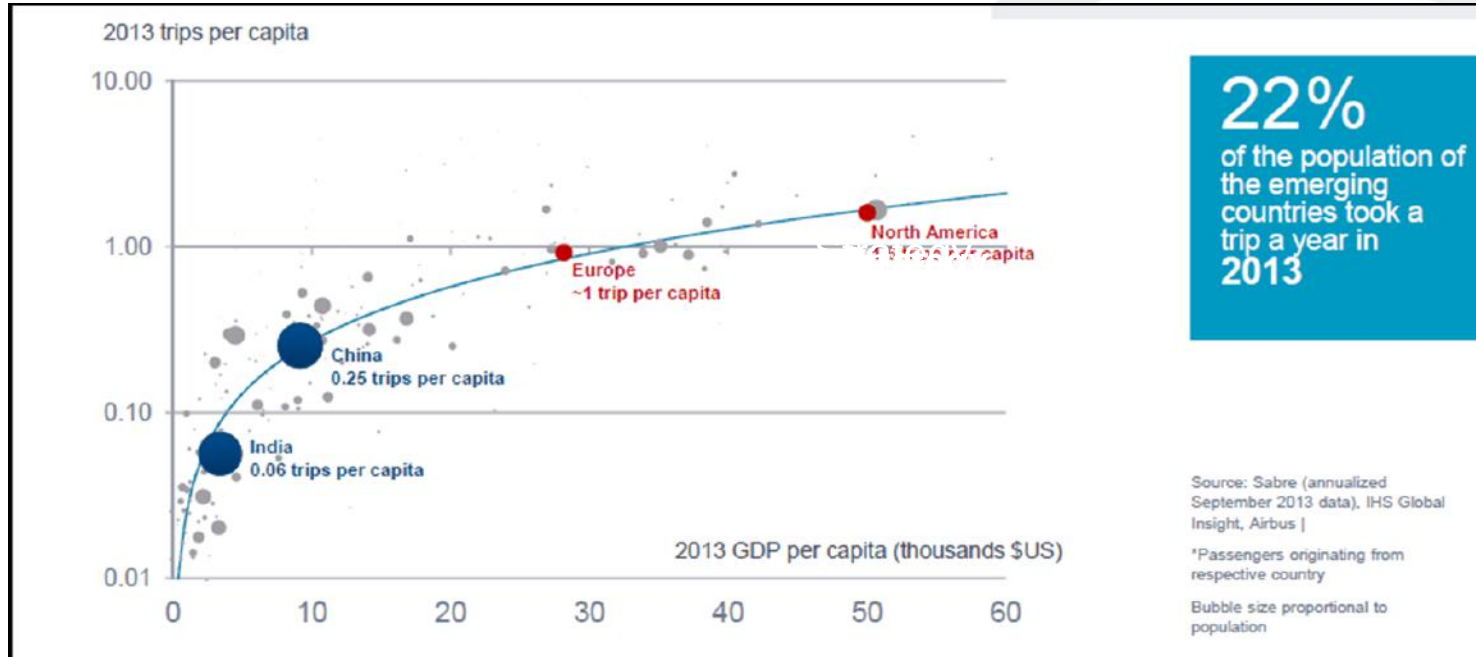
- Quantifying the market could involve aspects other than hard and fast passenger traffic volumes



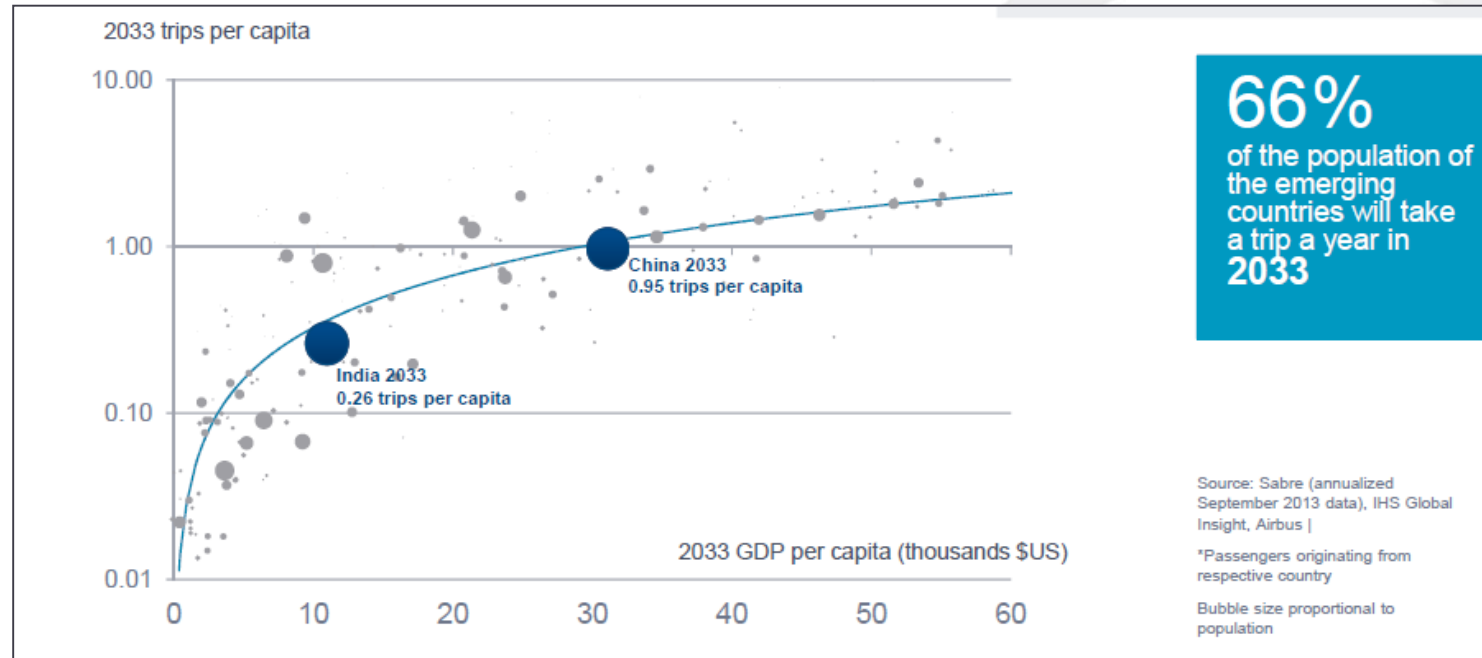


- **Corporate travel potential** – how many, how often, where to and currently who with?
- **Employment sectors** e.g. IT, Pharmaceuticals – good for air travel, automotive – poor
- **Forecast economic growth rates** – propensity for air travel is influenced significantly by ‘economic wealth’ – how do you compare with the competition?
- **Commercial/economic ties** with target route destination
- **Main exports/imports** – trading partners
- **Population trends** – more people, more passengers!

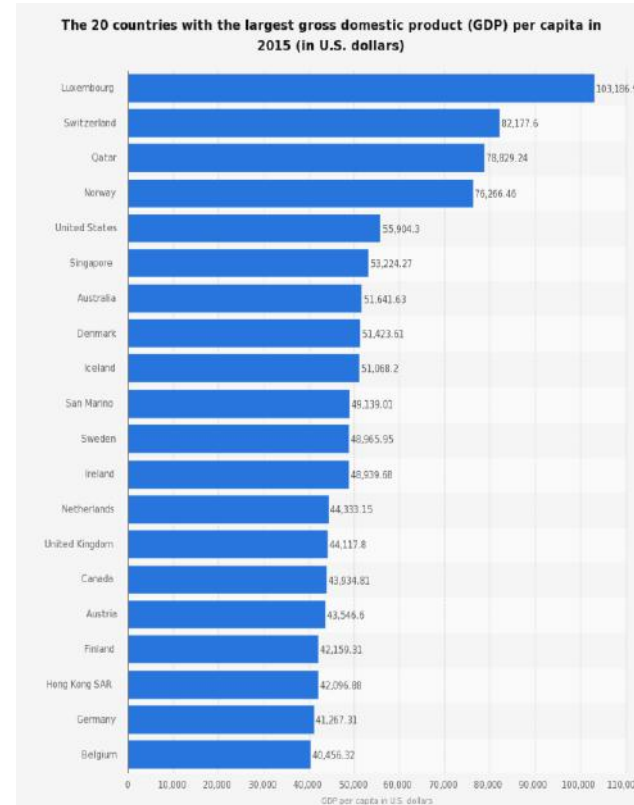
- GDP per capita is a good indicator of propensity to travel.
- Today, North Americans and Europeans take the most air trips



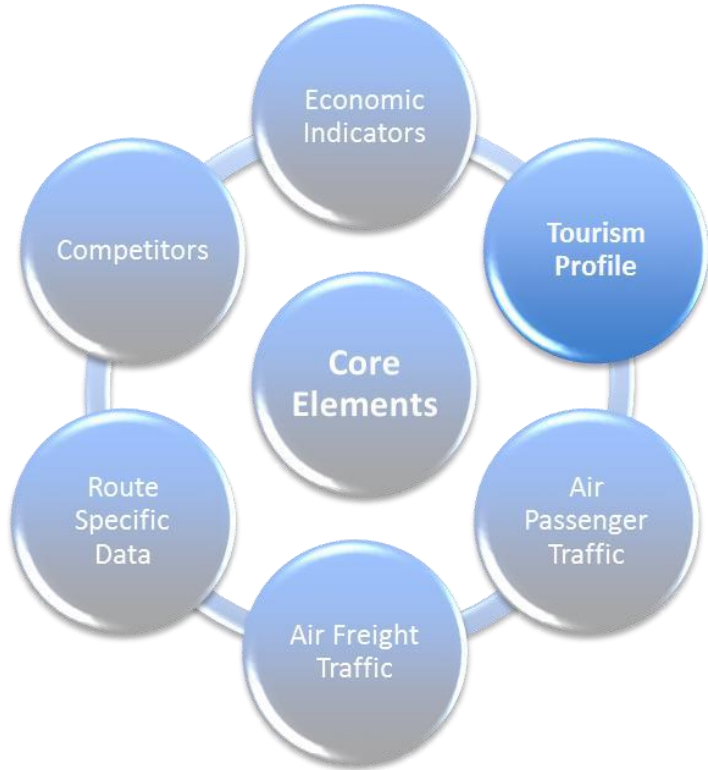
- By 2033 China will reach European levels



- Benchmarking against competing markets can be a useful tool to put your market in a better light than the competition.
- Do you have a higher forecast GDP rate than your competitors?
- What is the average income per inhabitant?
- Is your region wealthier than the competition?







- Catchment area tourism indicators
- **Origin/nationality** of visitors
- Number of **bed nights**
- Unique **leave patterns**
- Events, festivals, places of interest
- Demographics : ethnic ties generate **VFR traffic**
- **Make friends with your tourism boards, tourism associations and hotel associations!**
- Sources: PATA mPower, WTO, your local tourism board...



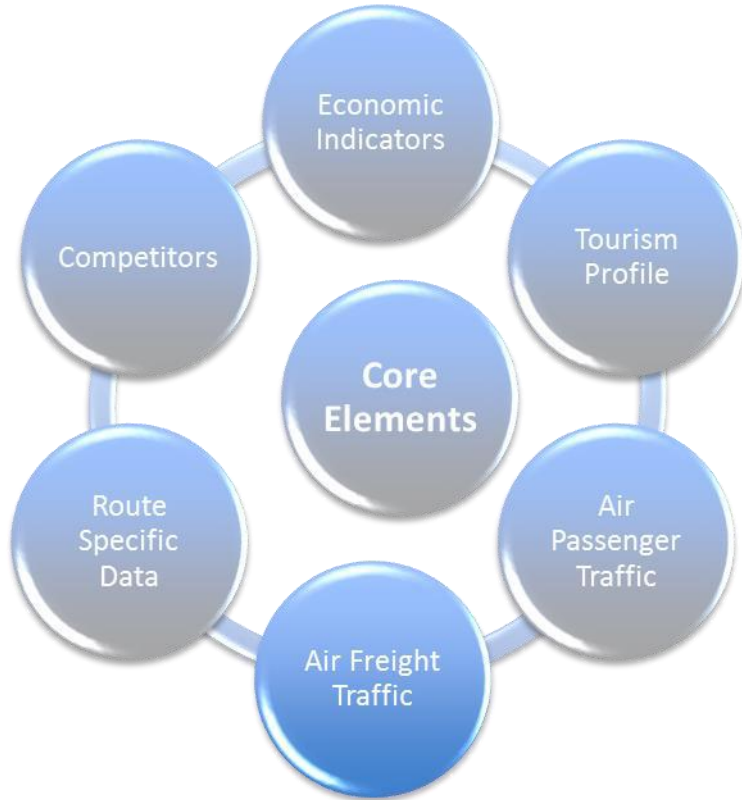
Source	Limitation
Government/CAA statistics: free sources of information on route specific traffic Examples: EU Stats, US BTS, Australian BTRE, UK CAA, German Destatis, Mexico DGAC, Indian DGCA, numerous airport websites	Often hard to obtain in detailed and consistent form Not necessarily by flight type (scheduled/charter)
ICAO traffic by specific carrier/route, incl. load factors	Only ICAO carriers
IATA BSP, MIDT sources from GDS and derived products (estimated traffic volumes) Examples: <b>Sabre AirVision Market Intelligence, IATA AirportIS, Amadeus Travel Intelligence, OAG Traffic Analyser, Travelport, Milanamos</b>	IATA-limited USA coverage MIDT needs calibrating and China not captured (TravelSky GDS not available)
Airport Passenger Surveys	Or websites !

### Airport Passenger Surveys

- Surface origin
- Itineraries – incl. low cost and self connections
- Motivation for travel
- Mode of surface transport
- Gender
- Age Profiles
- Occupation / socio-economic group
- Frequency of air journeys
- Group size
- Length of stay

### But

- Can be expensive
- Lack of universal coverage (no data on competitor)
- Sample size

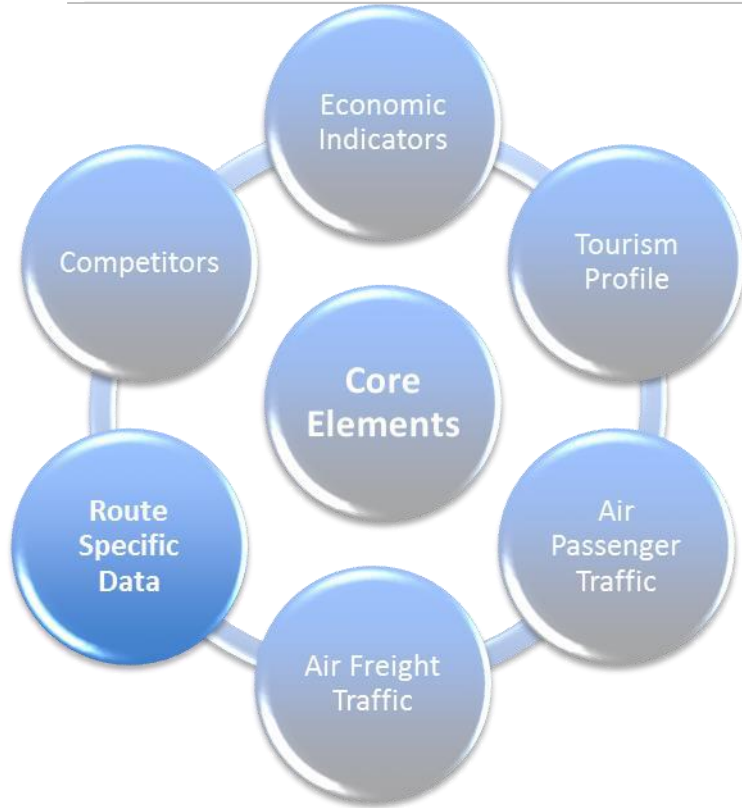


- Industry requirements
- Access links
- Consumer habits/tastes
- Directionality trends
- Economic mix
- Meet / interview freight forwarders

Off-the-shelf products:

- IATA (air cargo manifests only)
- Sabre AirVision Market Intelligence (air, sea, truck manifests – 53 countries)
- Seabury

**BELLY CARGO CAN  
MAKE THE DIFFERENCE  
BETWEEN PROFIT AND  
LOSS ON CERTAIN  
ROUTES!**

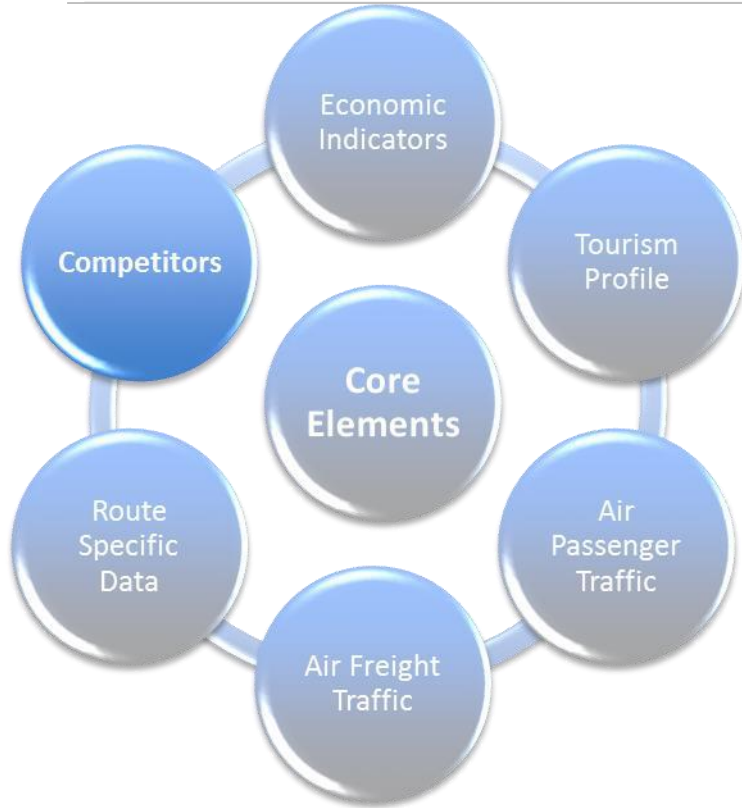


Similar sources as Air Passenger Indicators, queried to a more detailed level of information:

- By volume: i.e. 2-way passengers
- Seasonality:
  - All year round, winter or summer only
- By O&D (Origin and Destination):
  - Are passengers travelling from/to your airport's catchment area?
  - Directionality: predominantly outbound or inbound traffic?
- By gateway/transfer airport:
  - Flying from your airport to another and connecting onwards.
  - Surface leakage/transfer to a competitor airport and then catching a flight

- By journey purpose (mainly from pax surveys):
  - Business, leisure (VFR, holidays), education... *“Major influence on average yield that an airline can achieve”*
- By ticket type:
  - 1st class, business, economy. *“Very useful to know what is currently charged for similar journey”*
- By airline:
  - A competitor airline or an alliance partner?
- Traffic trends:
  - Macro-forecasts (i.e. Airbus, Boeing, Bombardier, OAG, Amadeus, etc)
  - Country-to-country (i.e. IATA air traffic forecasts, CAAs, etc)
  - Region-to-region (i.e. CAPA, Flightglobal, etc)
  - Route / Airport specific (i.e. ASM!)

- Additional information on MIDT or BSP type of data
- Raw MIDT/BSP data allows you to understand the detail that lies beneath the flown traffic figures for 'legacy carriers' and can provide answers to many of the route specific data questions not only at your airport, but also at your competitor's
- But remember: it's still a sample as bookings made direct with the carrier will be missed and penetration rates will vary by carrier, region and route
- Most low cost airlines will not be represented
- Total market sizes need to be estimated or weighted (also called calibrated)
- Point of sale data down to ZIP/Postal code assumes that the point of sale is in the same location as where the traveller originated from. Beware of centralised bookings (Expedia POS might be in London for all of UK!)
- Point of sale data is available down to agency code level to airlines only



### Catchment area of the airport

- Population by ground access time: road/rail, 1 hour, 2 hours
- Be realistic! Is Heathrow part of your catchment or vice versa?
- Existing market penetration: for services currently offered, where do passengers come from?

### Competitive airport catchment area

- How many passengers from our catchment area use competing airports?
- By route: surface migration or air transfer?

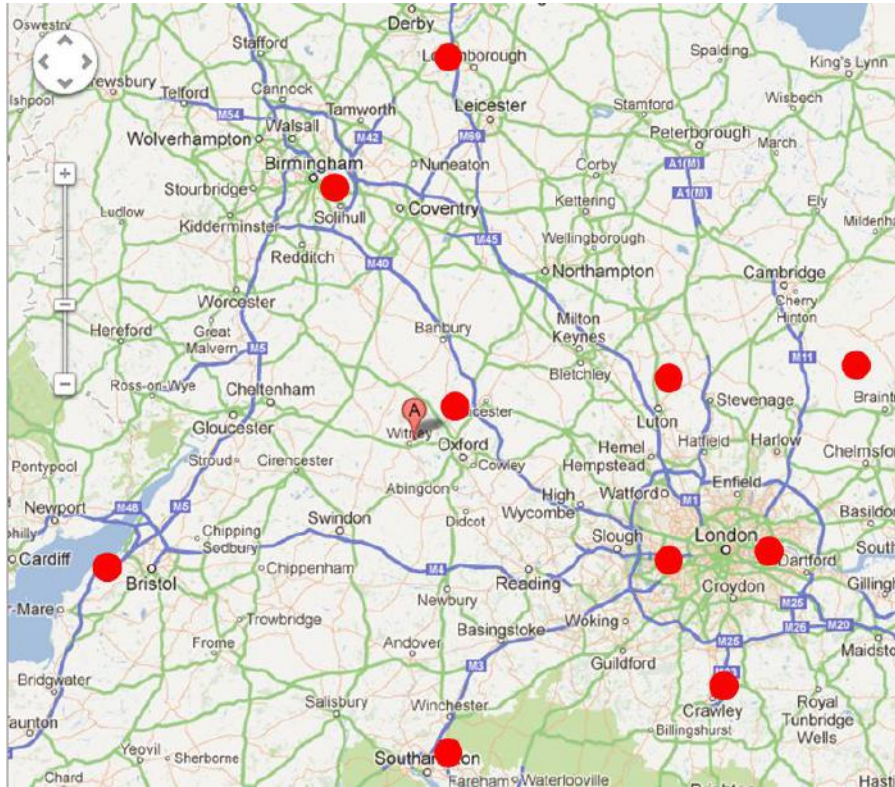
### Remember catchment areas are 'elastic'

- Passenger choice can be affected by price, product, timing, frequency of service...



# COMPETITIVE ENVIRONMENT – MARKET PENETRATION

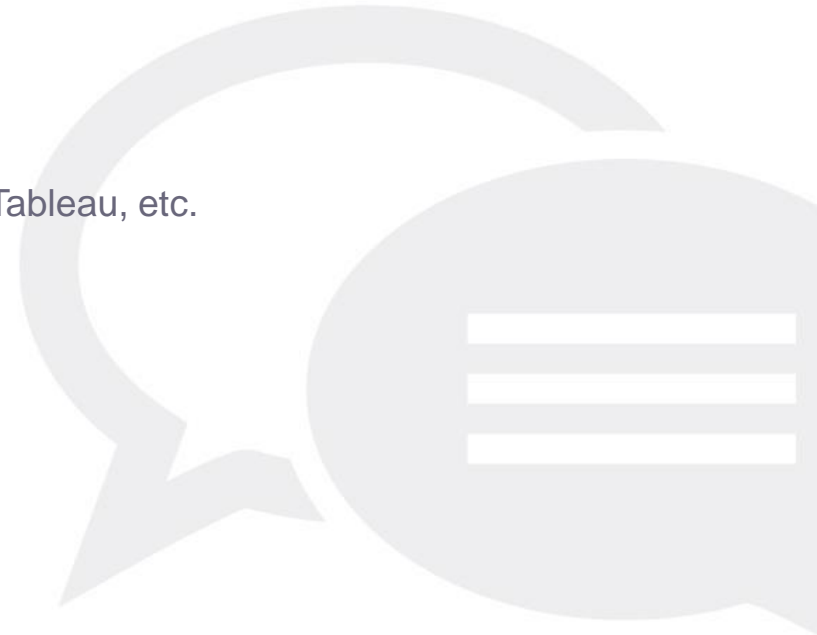
## MODULE 2



### Airport choice dilemma

- For short-haul flights we (A on map) have a choice of 10 (!) airports within a two hour drive from home
- However, for long-haul flights the choice is basically reduced to just three airports for non-stop flights (BHX, LGW, LHR), or connections via other hubs in Europe

- Using spreadsheets : Excel, etc.
- Business intelligence software: Tableau, etc.
- Advanced formulas
- Cross-referencing data
- Presenting data

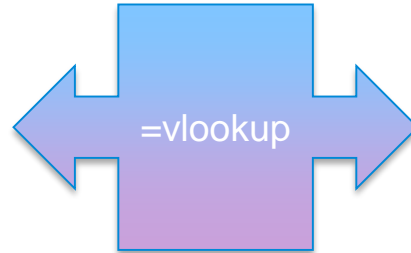


# SPREADSHEETS & BUSINESS INTELLIGENCE SOFTWARE

## MODULE 2

- Excel has 18 functions that are part of LookUp and Reference group of functions
- VLOOKUP is most commonly used. It will work across a table and return a value searched with the data table
- Applications are extensive, such as decoding airport codes into a city name, country, region or converting data (i.e month number into full month name)

Code	Name	Pax	Seats
MAN		21m	26m
BHX		10m	13m
LHR		60m	80m
NCL		7m	10m



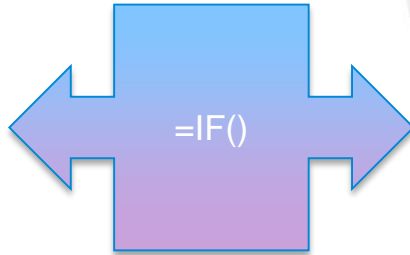
Code	Name
MAN	Manchester
BHX	Birmingham
LHR	London Heathrow
NCL	Newcastle
LGW	London Gatwick
EDI	Edinburgh

# SPREADSHEETS & BUSINESS INTELLIGENCE SOFTWARE

## MODULE 2

- The IF function will assign a value to data based on whether or not it meets an assigned condition.
- Applications are extensive, such as assigning various data fields into specific categories.

ORG	DES	A/L	Cnx Arpt	Pax
PEK	LAX	CA		124,394
PEK	LAX	UA	SFO	12,219
PEK	LAX	DL	SEA	11,712
PEK	LAX	OZ	ICN	10,076



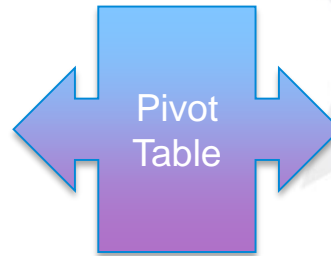
ORG	DES	A/L	Cnx Arpt	Traffic Type	Pax
PEK	LAX	CA		<b>Direct</b>	124,394
PEK	LAX	UA	SFO	<b>Indirect</b>	12,219
PEK	LAX	DL	SEA	<b>Indirect</b>	11,712
PEK	LAX	OZ	ICN	<b>Indirect</b>	10,076

# SPREADSHEETS & BUSINESS INTELLIGENCE SOFTWARE

## MODULE 2

- In data processing, a Pivot Table is a data summarization tool
- Among other functions, a pivot-table can automatically sort, count total or give the average of the data stored in one table or spreadsheet
- Pivot Charts in Excel are an efficient way of creating reports and dashboards, including dynamic filters and slicers !

Code	Year	Month	Dest.	Pax	Seats
MAN	2015	2	HAM	67	100
MAN	2014	4	IST	365	540
LHR	2014	3	CDG	39	87
LGW	2015	9	CDG	265	430
LHR	2013	4	MAN	587	700



Code	Pax
MAN	432
LGW	265
LHR	626

# Data Manipulation

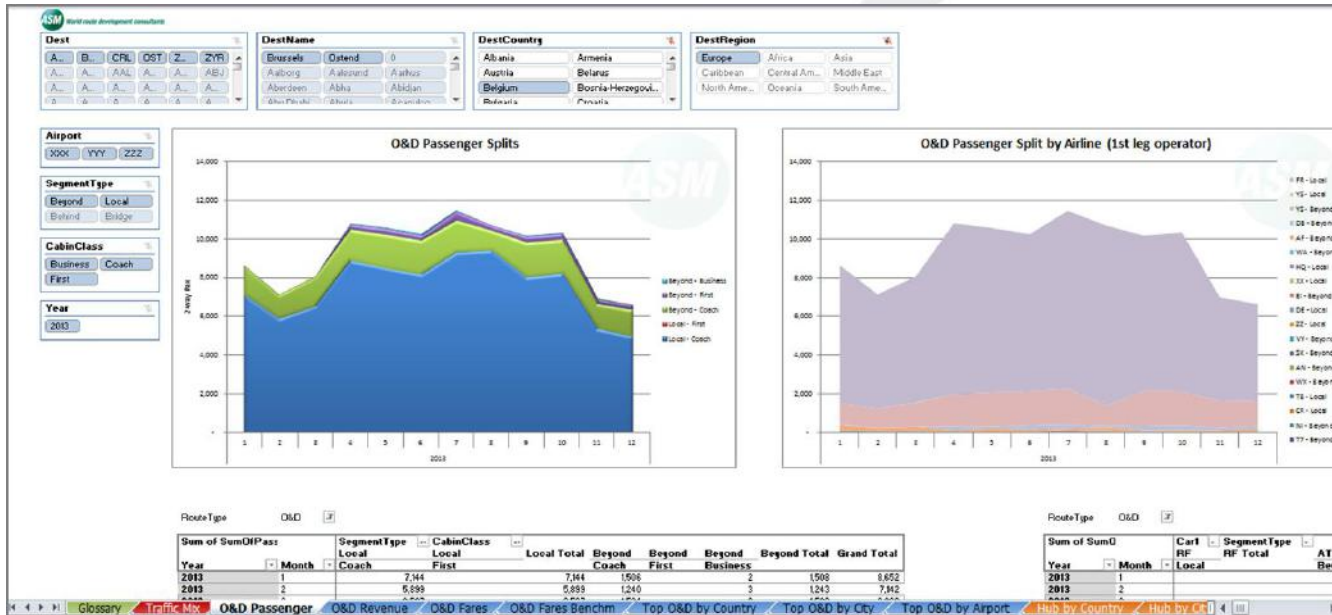
## Practical Exercise

1. Populate the empty columns in the spreadsheet with the Destination and Airline name.
2. Add a column to identify direct/indirect traffic based on connecting airport
3. Create a Pivot Table to report the capacity by airline operators by destination served.
4. Create a chart to show the top indirect markets.

# ASM MAPS “MY AIRPORT PASSENGER STATS”

## MODULE 2

- Analyse O&D traffic trends and seasonality
- But also: Type of traffic, Airline revenues, Fares & yields, Top markets, Hub traffic, Connection gateways, Pax origin, etc...





- Identify and quantify the potential market from your catchment area is crucial
- Multiple sources of data and suppliers are available and it can be costly to purchase them
- Research time can grow exponentially for your team
- Strong Route Development expertise helps identifying best sources of information to represent each aspect of the market
- Excelling in Excel is a must !