

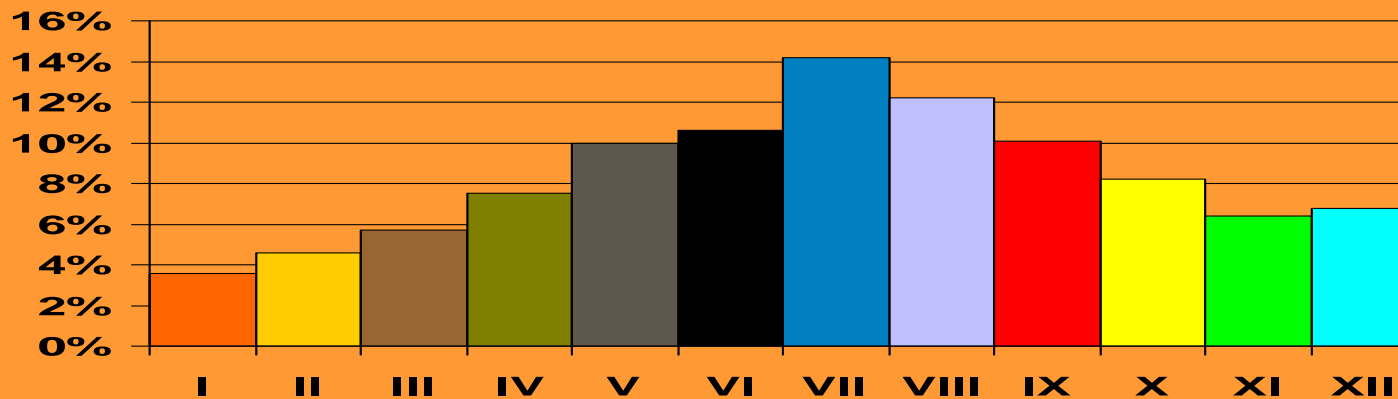
Measuring and comparing seasonality in European destinations

The ECM Shopping Barometer

- **Seasonality: The systematic intra-year variation in visitation caused by exogenous factors:**
 - Natural (e.g. climate)
 - Institutional
 - caused by the markets of origin (e.g. timing of school holidays)
 - caused by the destination (e.g. regular mega-events)
 - Calendar effects (e.g. Easter)
- **Problems:**
 - The need to **optimize the use of tourism infrastructure** such as roads to accommodate high flows during certain periods
 - Seasonality **increases the risk of high unemployment** during the low seasons
 - In dryer regions the issue of **water scarcity** is of particular concern

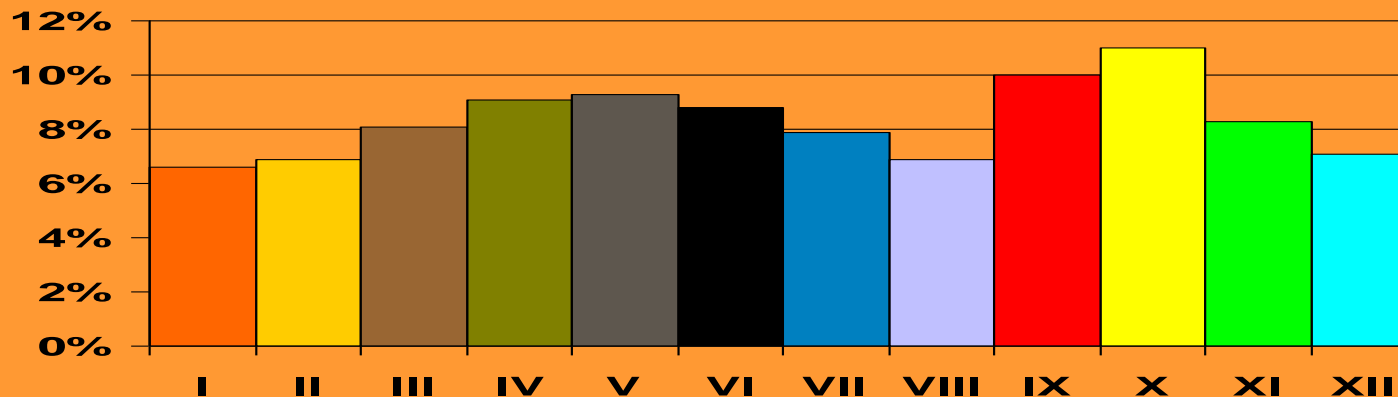
- **Product**
 - Development of new offers, events, packages, ...
- **Pricing**
 - Providing discounts for periods with less demand
- **Promotion**
 - When and how intensively we will promote the tourism products
- **Placement**
 - Which geographic region/market should be promoted
 - Which segments (e.g. young adults, families, business people)

Gini coefficient



LÜBECK

Gini=0.207



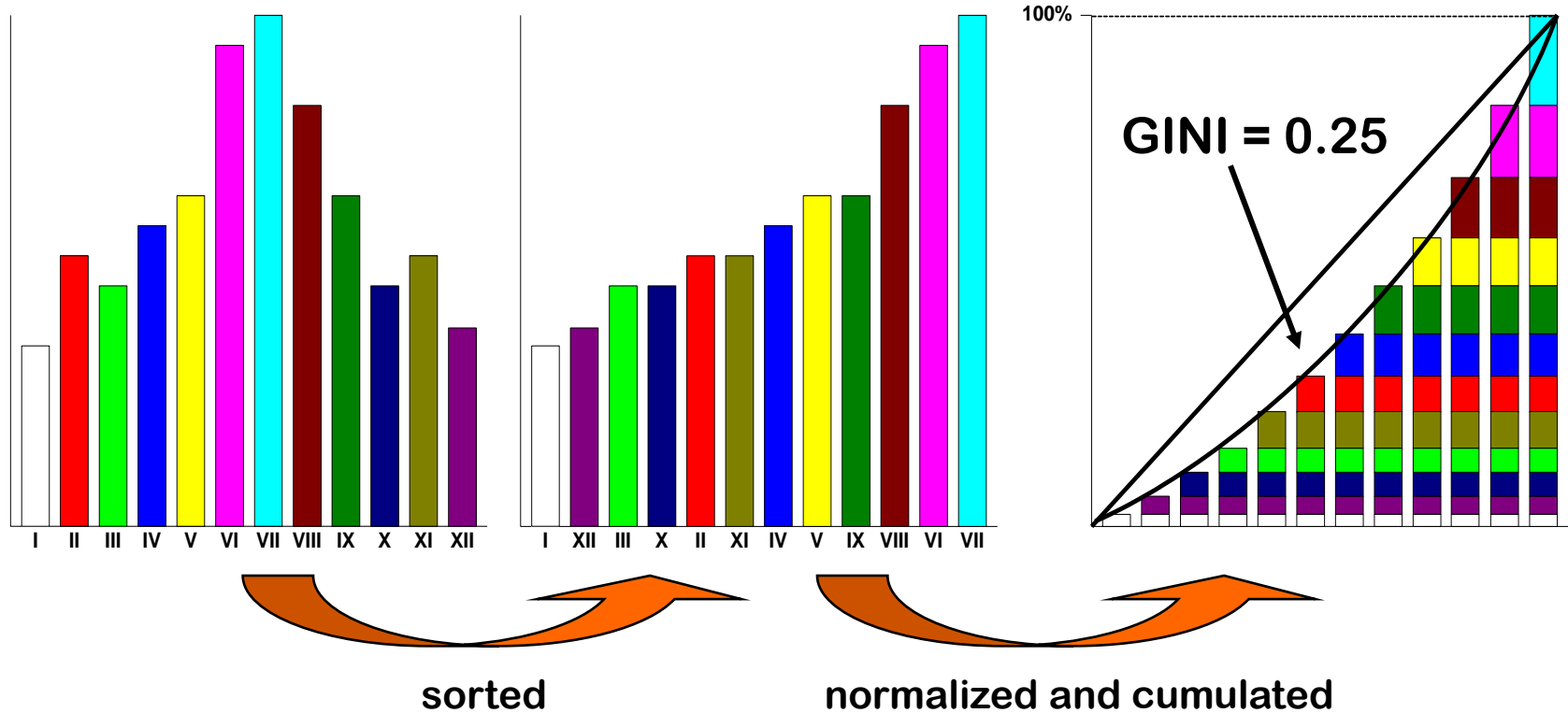
MADRID

Gini=0.088

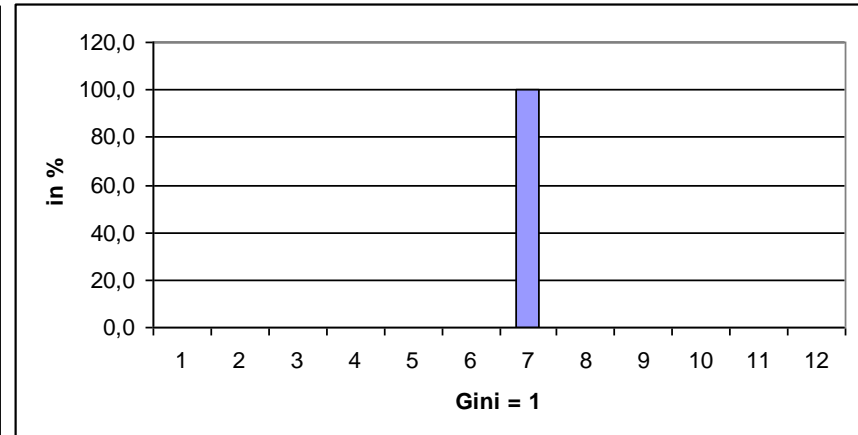
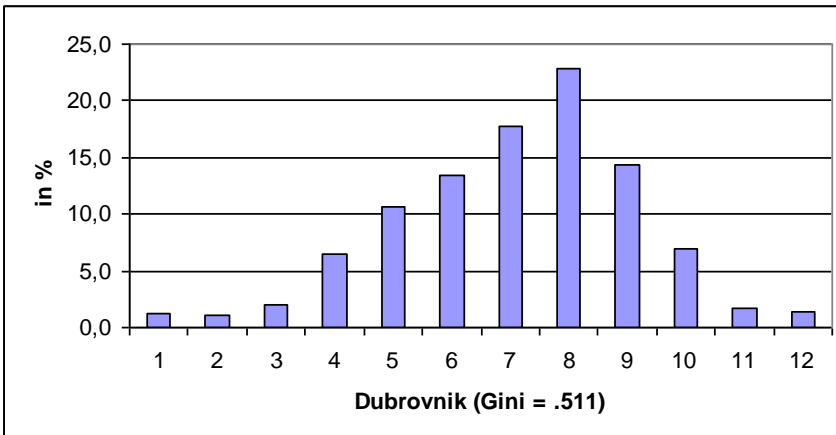
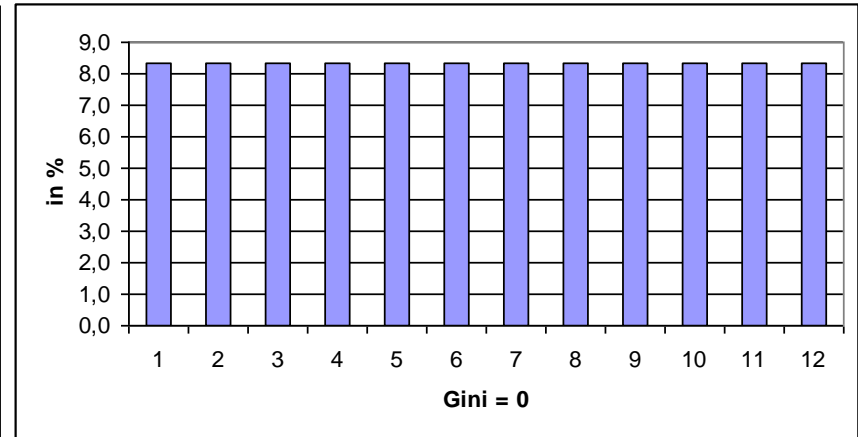
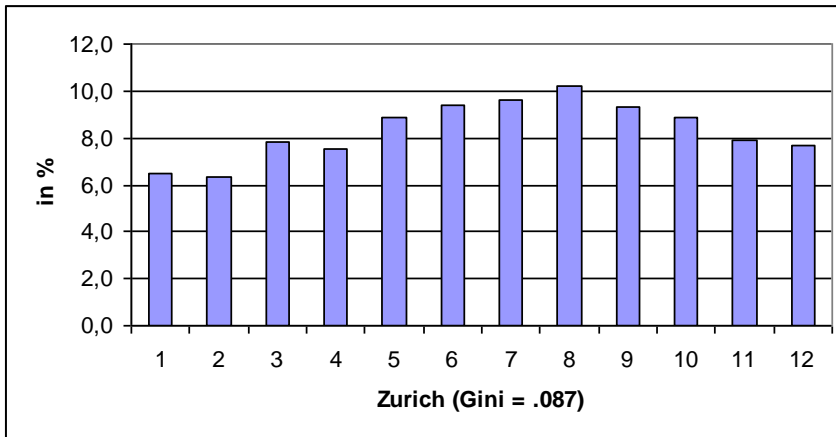
The Gini Coefficient

Measure of statistical dispersion. The Gini can be approximated

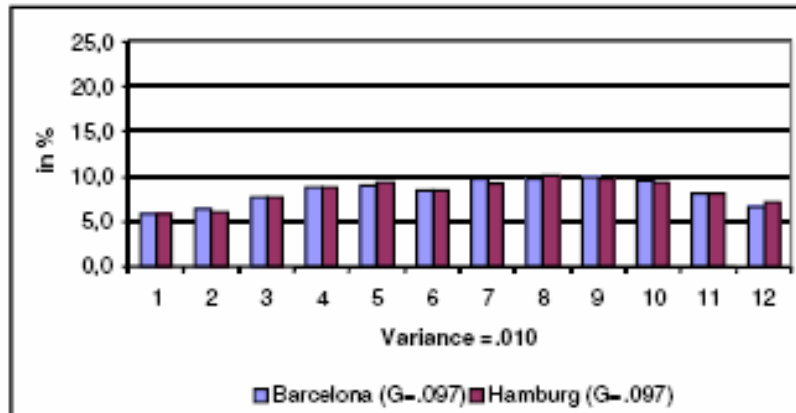
with trapezoids:
$$G^* = 1 - \sum_{i=1}^{12} (X_i - X_{i-1}) \times (Y_i + Y_{i-1})$$



Measuring Seasonality (Gini coefficient)

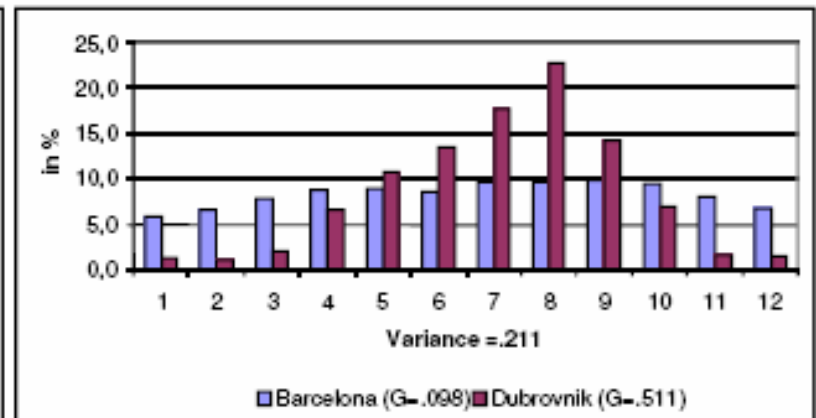
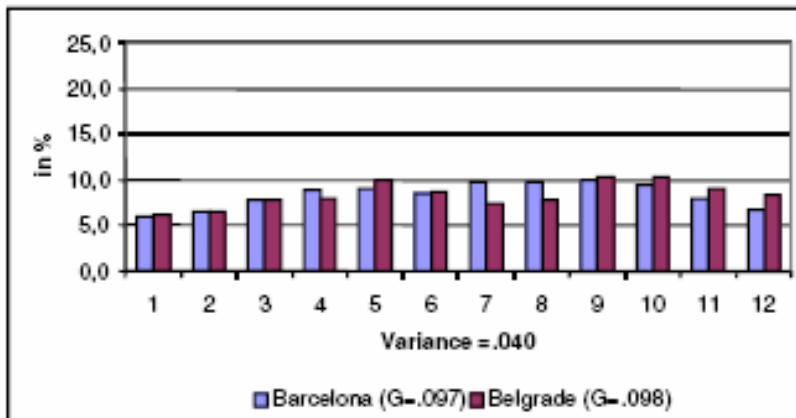


Similarity of Seasonal Patterns



$$d = \sqrt{\sum_{i=1}^{12} (x_i - y_i)^2}$$

Similarity of seasonal patterns of two destinations. Multiple destinations?



- **Objective**
 - To shed light on the costs differential existing across cities in Europe, collecting publicly available data for a specific set of items among those commonly consumed by visitors.
 - The final goal of the project is to rank destinations according to their costliness and to gain a deeper insight on visitors' perception of their experience in a city.
- **Problems**
 - What prices to collect?
 - Comparability of services and a prices
- **Sample size**
 - 2012: 10
 - 2013: 34

- **Guidelines (Manual) – Prices should:**
 - reflect the final price (i.e. include VAT and eventual tourists taxes)
 - refer to the regular price for individual's consumption (discounts for groups or special categories are not considered)
 - are collected from businesses in the city center
 - are collected in the local currency (converted into Euro)
 - are collected at a specific time of the year, but refer to a one-year period
- **The shopping bundle covers the main service categories required by tourists at the destination**

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The ECM Shopping Barometer

16 items

Local transport	Taxi from airport to city centre (1 person including luggage)	If the city has more than one airport, the researcher has to select the airport recognized as the one where the majority of international guests arrive. The name of the airport has to be specified in the notes.
	Train from airport to city centre (1 ticket, 2nd class) OR public transport bus from the airport to the city center (1 ticket, regular)	
	1 day ticket for the local public transport	
Food and Beverage	Price for a business lunch of 3 courses, no drinks, in the restaurant of a 4-star hotel in the city centre	The restaurant can be part of one of the hotels contacted for the room rates.
	Price for a dinner of 3 courses, no drinks, in the restaurant of a 4-star hotel in the city centre	
	Price of a classic pizza, Margherita with 2 toppings, for 1 person	Price collected at a Pizza Hut in the city centre
	A Coke, 0,33 l, in a Pizza Hut restaurant in the city centre	If a 0,33 l Coke is not available, the price should refer to a medium size Coke (or other soft-drink).
	A Beer, 0,33 l, in a Pizza Hut restaurant in the city centre	If a 0,33 l beer is not available, the price should refer to a medium size beer.
	Big Mac meal at McDonalds in the city center	The price refers to a Big Mac menu, including 1 Big Mac, french fries and one drink at a regular price (no special offers)
	Espresso in the lobby bar of a 4-star hotel	The bar can be part of one of the hotels contacted for the room rates.
Entertainment	Regular price for 1 ticket for the opera, 1 adult, no reductions.	The opera should be a classical piece. The seat should be in the parterre, 5th row in the middle.
	Regular price for 1 ticket for a classical concert, 1 adult, no reductions.	
	Regular price for the entrance to the biggest/main museum (permanent collection), for 1 adult, no reductions.	The price should refer to the regular entrance fee and should not be collected on days with special offers.
	Regular price of 1 ticket for the hop-on hop-off sightseeing bus, 1 adult, no reductions	If the hop-on hop-off bus is not available, another similar sightseeing tour (e.g. tourist train) can be used and specified in the notes.
	Zoo, entrance of 1 adult, no reductions.	If the zoo is not available a similar attraction can be used (e.g. Tropicario, Mini Europe).

Measuring and benchmarking the diversity of markets

**Development of a market in all destinations
(markt volume and markt growth)**

**Portfolio analysis: Visualizing a destinations
competitive performance**

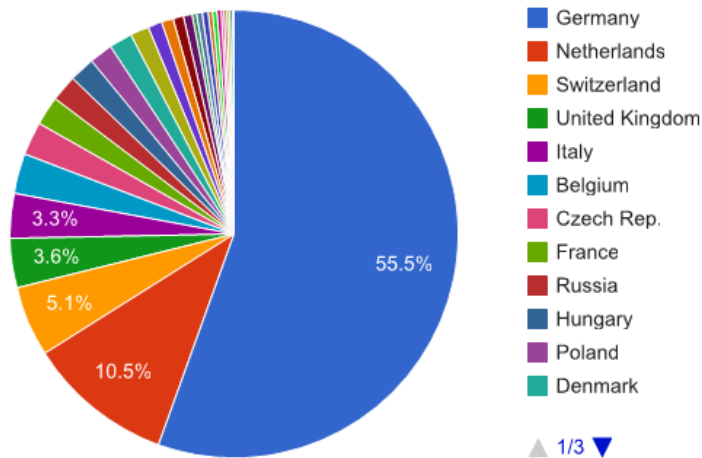
**Discussion of possible future steps in
developing TourMIS**

Measuring and benchmarking the diversity of markets (guest mix)

Diversity of Guest Mix

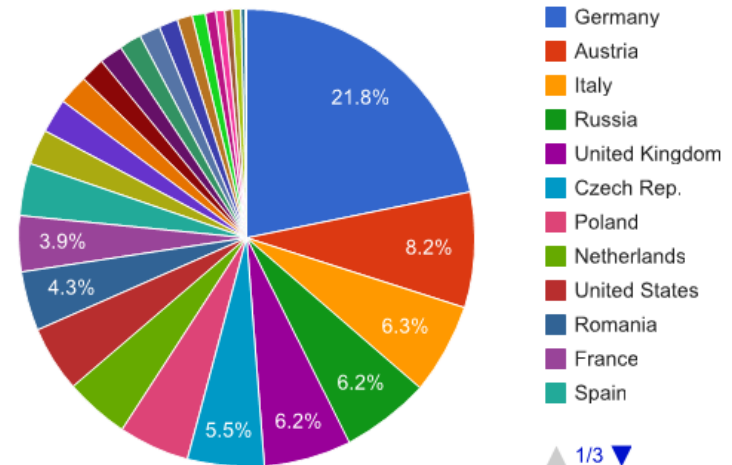
Assumption: A high diversity of guest mix spreads the risk of negative economic developments in single markets

Average length of stay of a market in all ETC destinations - Bednights (preferred definition) 2012



Austria (Gini = 0.792)

Average length of stay of a market in all ETC destinations - Bednights (preferred definition) 2012



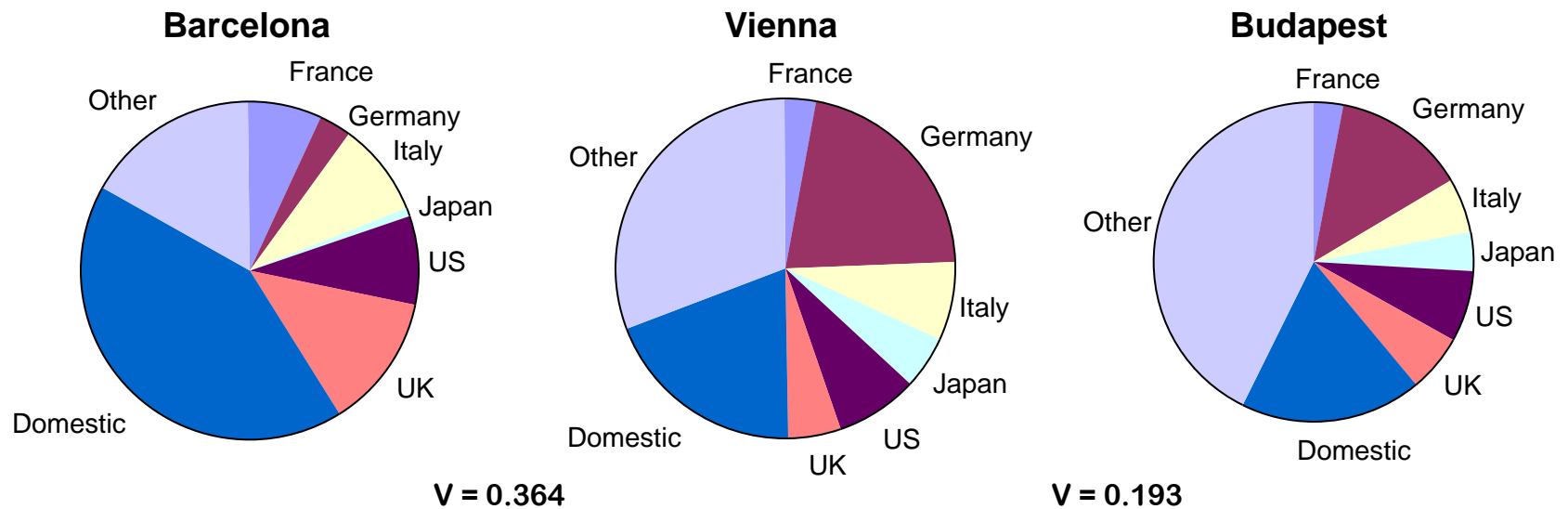
Hungary (Gini = 0.525)

- Heath and Wall (1992)
- Van der Borg (1994)
- Mazanec (1995)
- Grabler, Mazanec and Wöber (1996)
- Grabler (1997)
- Ritchie and Crouch (1993, 2000, 2003) also Crouch and Ritchie (1994, 1995, 1999), Ritchie, Crouch and Hudson (2001), and Ritchie, Crouch, Dwyer and Kim (2003)
- Dwyer et al. (2000, 2001) and Dwyer and Kim (2003)
- Uysal, Chen and Williams (2000)
- Wöber (2001)
- Enright and Newton (2004, 2005)
- Wöber and Fesenmaier (2004)
- Mangion, Durbarry and Sinclair (2005)
- Gooroochurn and Sugiyarto (2005)

1. Judgmental measures
2. Supply oriented measures
3. Demand oriented measures
 - Analysis of disaggregated (micro) data:
 - direct judgments of similarity (perceived attractiveness)
 - similarity of attributes toward competing offerings
 - patterns of travel experiences
 - Analysis of aggregated (macro) data:
 - similarities of seasonal patterns
 - similarities in guest mix

Analyzing the Similarity of Guest Mix

Assumption: The comparison (variance) of guest mix shares defines a destination's exposure to interregional competition



**Development of a market in all destinations
(markt volume and markt growth)**

**Portfolio analysis: Visualizing a destinations
competitive performance**

Objective: To find the right mix of target markets

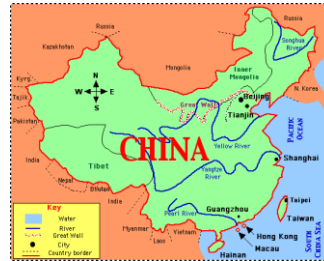
Implications for budget allocation process (e.g. where to invest ...) and strategic (long-term) decisions (e.g. shall we enter/leave a market?)

Basic questions:

- What makes a market attractive?
- What are our chances in attracting visitors from a particular (attractive) market?

What makes a market attractive?

1. Size



2. Growth/Prospects



- (Traditional) market volume and market growth indicators
 - # of travellers, spendings (,Outgoing‘)
 - either measured at the country of origin (source market) or at the destination (e.g. total sum of arrivals)

What are our chances in attracting visitors from a particular (attractive) market?

Market chance indicators

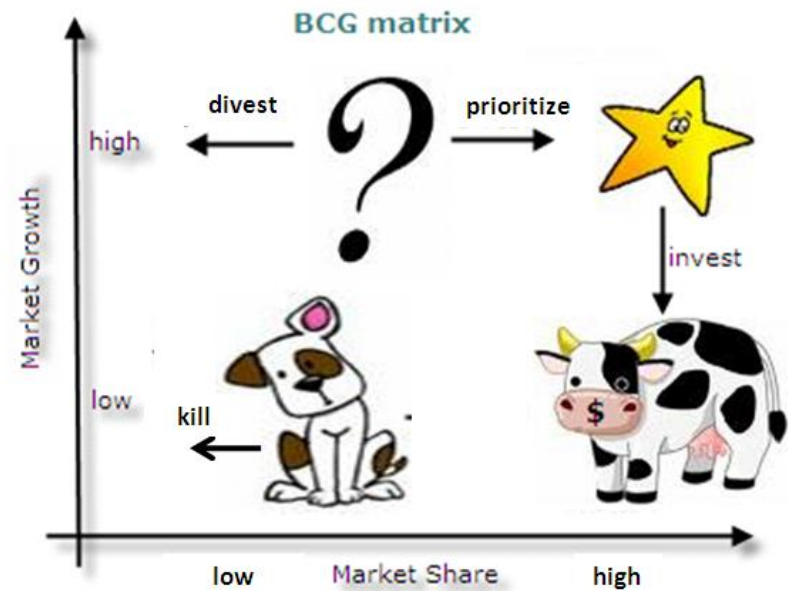
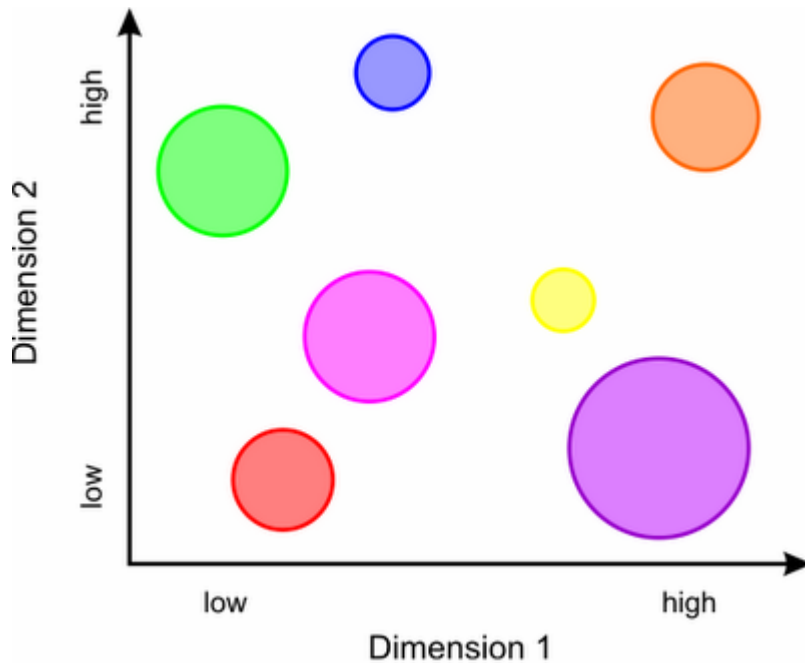
- **Destination awareness**
 - Knowledge, preference and sympathy towards a destination
- **Relative price level**
 - Comparison between prices of tourism goods and travel budget of travellers
- **Level of distribution**
 - Availability of a destination within the generating country's distributional system of tour operators and travel agents and online reservation systems
- **Competitive pressure**
 - Advertising budget invested by all competitors in a market
- **Travel distance**
 - Average financial input to cover travel distance

Strategic Key Performance Indicators

- **Market volume** is an absolute number describing the volume of tourism generated by a particular market
- **Market growth rate** is the percentage change of the market volume (in %)
- **Absolute market share** is the ratio when comparing the performance of a particular destination with the overall market volume (in %)
- **Relative market share** is the ratio of the market share of a particular destination compared to the market share of the leading destination (or the second best destination if the destination of evaluation is the market leader)
- **Guest mix share (= importance value)** is the proportion of bednights sold of a particular market compared to the overall number of bednights recorded in a tourism destination (in %)

Market Growth-Share Matrix

Visualization



Examples on TourMIS

„Market volumes and shares of selected destinations“

- **Regional Level**
 - Portfolio analysis of Austrian provinces
- **City Level**
 - Portfolio analysis of cities in Europe
- **National Level**
 - Portfolio analysis of countries in Europe

Discussion on possible future steps in developing TourMIS

- **New data sources**
 - Economic indicators
 - Media Monitoring
 - Hotel prices
- **New tables**
- **Additional graphs**
- **New menu structure**
- **Automatic upload procedures**
- **Quantitative forecasting**

Economic indicators

Evaluation of source market developments

- **Stock market developments (9)**
 - ^GDAXI = Dax (Germany)
 - ^DJI = Dow Jones Industrial Average (USA)
 - ^FCHI = CAC40 (France)
 - ^FTSE = FTSE 100 (UK)
 - ^FTSEMIB.MI = (Italy)
 - ^N225 = Nikkei 225 (Japan)
 - ^IBEX = IBEX 35 (Spain)
 - ^SSEC = SSE Composite Index (China)
 - ^RTS.RS = Russian Trading System Index (Russia)
- **Exchange rates (22)**
 - USD, CNY, JPY, GBP, RUB, DKK, SEK, CZK, HUF, CHF, HRK, NOK, BGN, EEK, LVL, LTL, PLN, RON, SKK, TRY, ISK, UAH
- **Monthly data since 2005**

World Bank (data.worldbank.org) via (open source) API

- GDP constant 2000 \$US
- Consumer Price Index (in domestic prices and/or in € multiplied with current exchange rates)
- Unemployment Rate total (% of total labor force)
- Size of population

Many open questions ...

- Periodicity (m/a)
- Which markets? All?
- How to present data within TourMIS?
 - Additional menu item? Where?
 - How to select and present economic indicators in tables (absolute, relative values, index, ...)? Which context (destination level, aggregation level?)
 - Analysis? (correlation factors, econometric modelling/forecasting, ...)
 - Visualization??

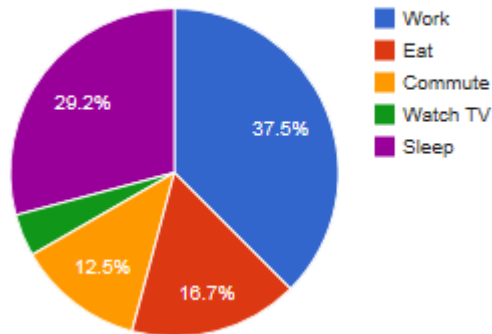
Possible New Tables & Graphs

Opportunities for visualization

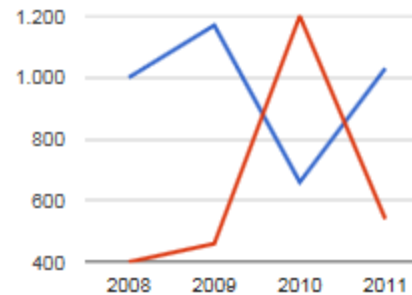
Google Chart Tools (API)

See <https://developers.google.com/chart/interactive/docs/gallery>

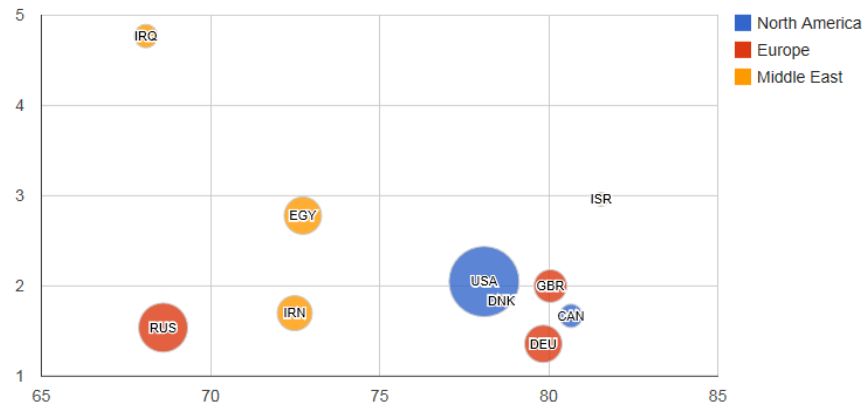
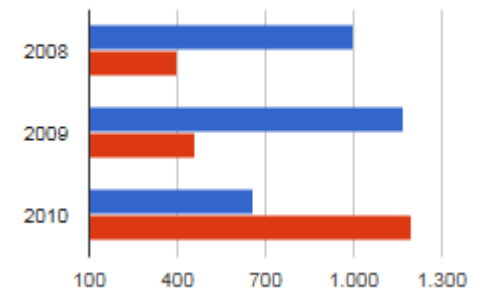
Pie Chart



Line Chart



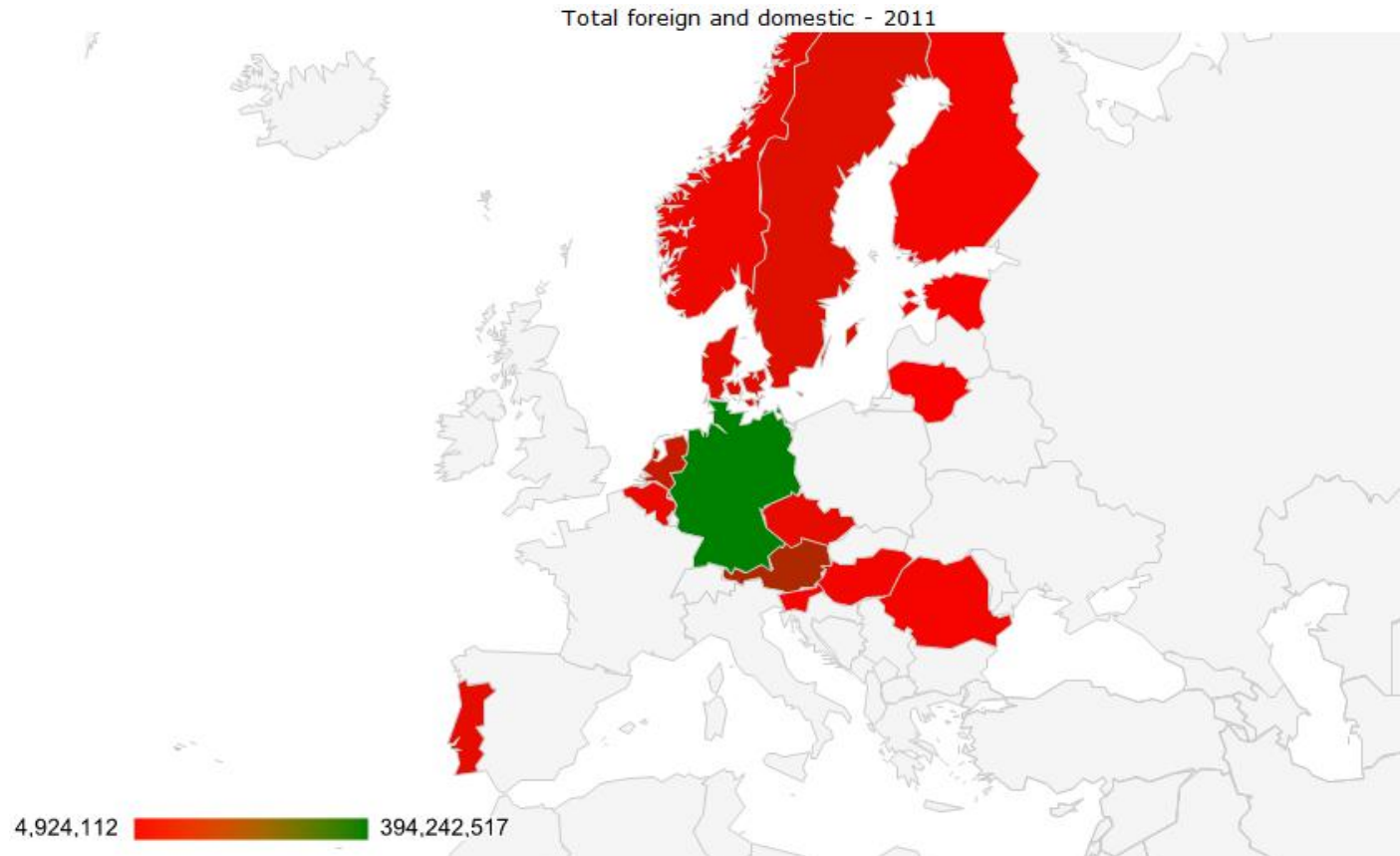
Bar Chart



Opportunities for visualization

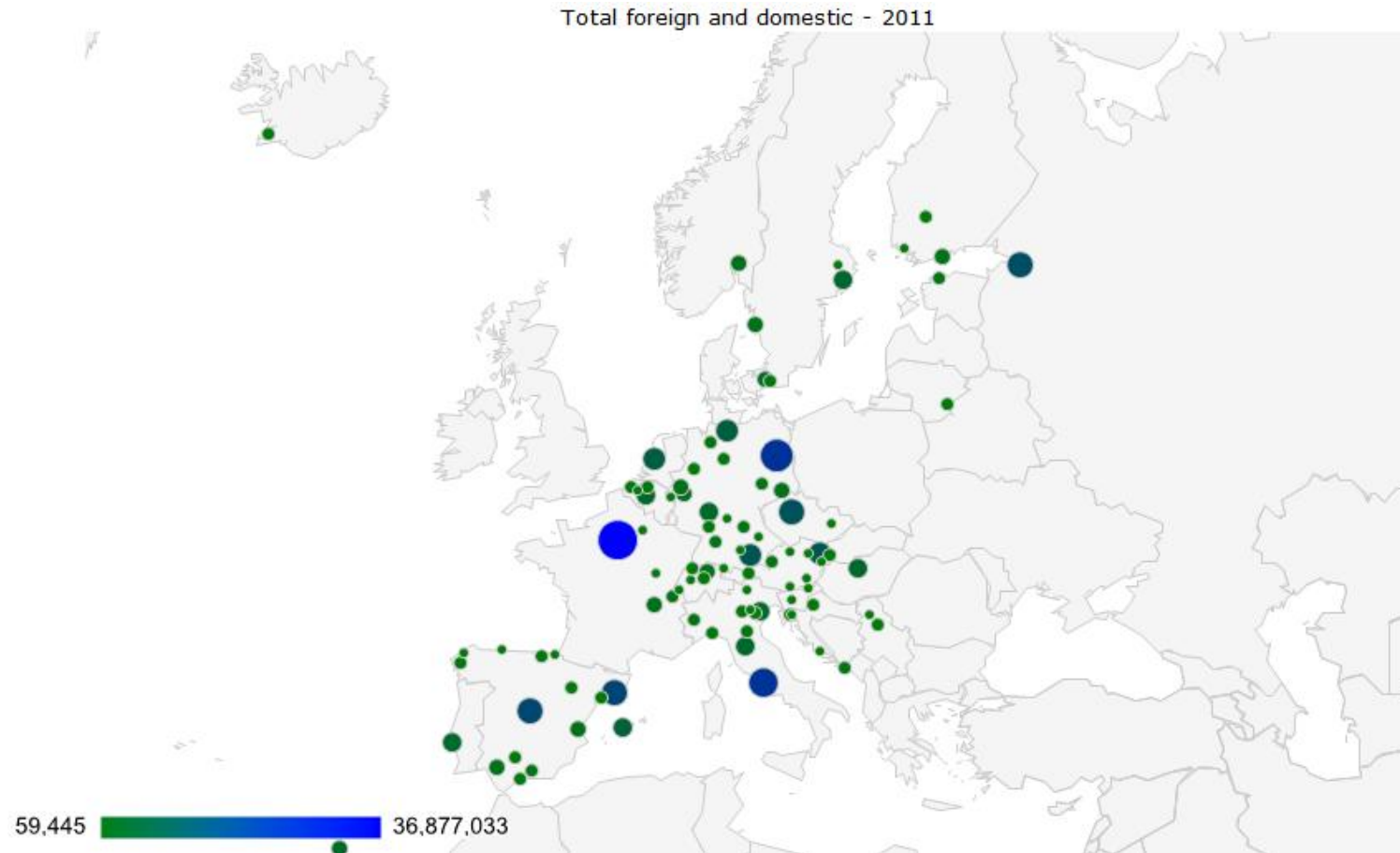
New area charts!

ETC: „Arrivals and nights (most commonly available definition)”



Opportunities for visualization

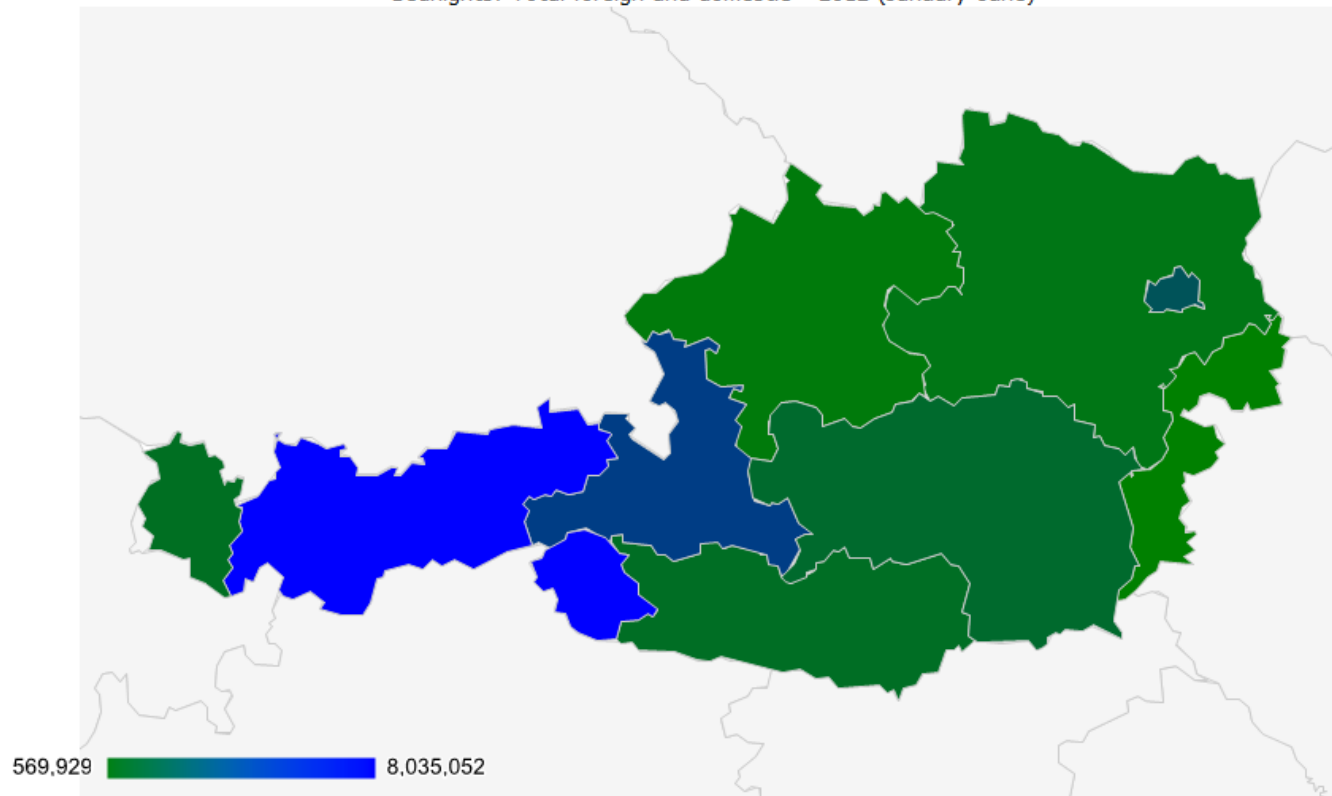
ECM: „Arrivals and nights (most commonly available definition)”



Opportunities for visualization

Austria: „Arrivals or bednights of one generating country by type of accommodation and Austrian regions”

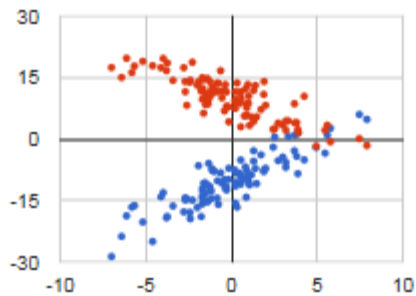
Bednights: Total foreign and domestic - 2012 (January-June)



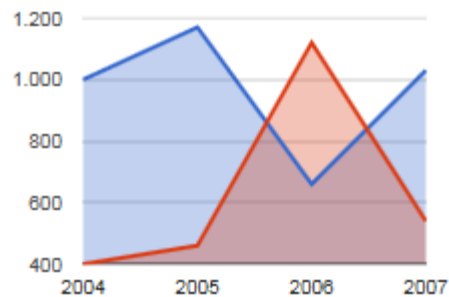
Opportunities for visualization

Other possible charts ...

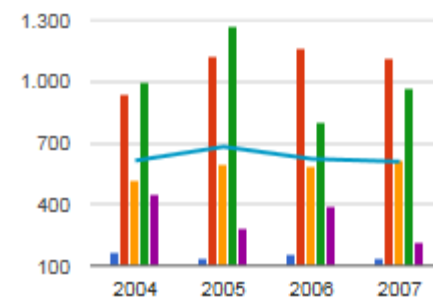
Scatter Chart



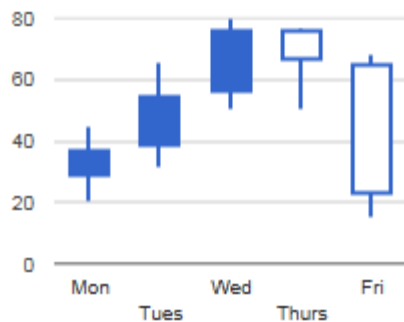
Area Chart



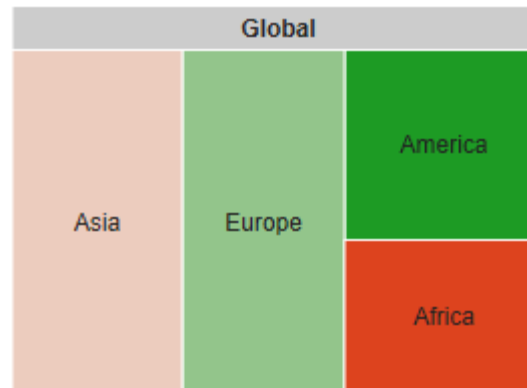
Combo Chart



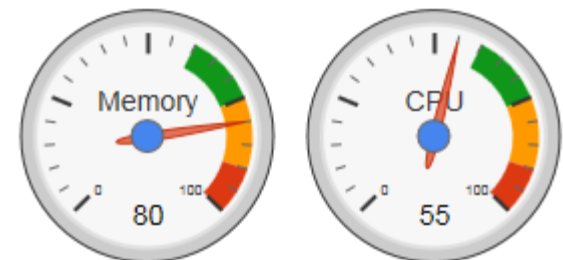
Candlestick Chart



Treemap



Gauge



How to make suggestions for new tables?

Drafting a new table Example: Average length of stay

Suggested label of table: Average length of stay in one ETC destination ¶

Destination = <to be selected> ¶

Type of Accommodation = <to be selected> ¶

Period = mm1/yy1 - mm2/yy2 <to be selected> ¶

¶

¶	Arrivals¶			Bednights¶			Avg-Length-of-Stay¶	
	mm1/yy1¶	mm1/(yy1-1)¶	%p.y.¶	mm1/yy1¶	mm1/(yy1-1)¶	%p.y.¶	mm1/yy1¶	mm1/(yy1-1)¶
	-¶	-¶		-¶	-¶		-¶	-¶
	mm2/yy2¶	mm2/(yy2-1)¶		mm2/yy2¶	mm2/(yy2-1)¶		mm2/yy2¶	mm2/(yy2-1)¶
	(absolute)¶	(absolute)¶		(absolute)¶	(absolute)¶		(days)¶	(days)¶
Market-A¶	¶	¶	¶	¶	¶	¶	¶	¶
...¶	¶	¶	¶	¶	¶	¶	¶	¶
Market-Z¶	¶	¶	¶	¶	¶	¶	¶	¶

Submit it to tourmis@modul.ac.at

Possible New Menu Structure

- **Latest trends**
- **Performance of last 10 years**
- **Nights & arrivals**
 - Availability (only nights and arrivals)
 - Monthly data
 - Annual data (current list excluding table 'Accommodation, bedspaces and occupancy')
 - Data entry (data inputers only; only bednights & arrivals)
- **Capacity & occupancy**
 - Availability
 - Annual data (Accommodation, bedspaces, occupancy)
 - Data entry (data inputers only; only capacities)
- **Attractions & sights**
 - Annual data
 - Data entry (data inputers only)

Summary of workshop findings and feedback by participants