UNDERSTANDING THE DYNAMICS OF TOURISM IN DESTINATIONS
Mobile Phone (Big) Data Analysis

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5.1 bn people (67%) with mobile device in 2019

Some 700 million new mobile subscribers by 2025

4G takes the lead, while commercial 5G is now a reality
MADRID CASE STUDY

• To better understand tourist behavior around key attractions in Madrid

• Nationals / Foreigners

• April 2018

• Behavior at selected AOIs, between AOIs and during the night

• 9 bio. data points
## Review of Existing Projects

<table>
<thead>
<tr>
<th>Volumes</th>
<th>Stays &amp; Trips (overnight/day)</th>
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</thead>
<tbody>
<tr>
<td>Length of stay</td>
<td>Trip Chain</td>
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<tr>
<td>Time Spent / Activities / POIs (by location &amp; time)</td>
<td>Trip Type</td>
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<tr>
<td>Routes / Flows (OD, frequency)</td>
<td>Repeat vs. First time visit</td>
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<tr>
<td>Distribution (spatial/temporal)</td>
<td>Main destination / secondary</td>
</tr>
<tr>
<td>Time of visit</td>
<td>Modes</td>
</tr>
<tr>
<td>Origin</td>
<td>Demographics / Visitor Profile</td>
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<tr>
<td>Density</td>
<td>Cross border movements/Commuting Patterns</td>
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<tr>
<td>Size (delineation) of destination</td>
<td>International travel</td>
</tr>
<tr>
<td>Domestic travel</td>
<td>Outbound travel</td>
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</tbody>
</table>
Selected Areas of Interest (AOIs)

- Final POIs

Final AOIs:
1. Debod Temple_Parque Oeste Area
2. Retiro Park Area
3. Goya_Alcázar Area
4. Plaza Castilla Area
5. Casa de Campo_River Area
6. Attraction Park_Zoo Area
7. City Center Area
8. Bernabeu Stadium Area
9. IFEMA Area
10. Las Rozas Village Area
11. Cerro del Tío Pío Park Area
12. Castellana Area
13. Rastro_Tirso de Molina Area
14. Calle Serrano Area
15. Ventas Area
16. Matadero_River Area
17. Planetarium Area
18. Northern Gran Via Area
19. Wanda Stadium Area
Total Visitors per AOI
Copa Del Rey Final: Barça - Sevilla

21/04/2018 17:26

21 April 2018 / 9:30pm - 11:00pm
Copa Del Rey Final: Barça - Sevilla

WANDA

BARCELONA

REST OF SPAIN

SEVILLA

FOREIGNERS

IFEMA

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Nationals vs. Foreigners

- City Center: 86.59% for Nationals, 13.41% for Foreigners
- Bernabéu Stadium: 89.13% for Nationals, 10.87% for Foreigners
- IFEMA: 87.77% for Nationals, 12.23% for Foreigners
- Serrano Area: 87.56% for Nationals, 12.44% for Foreigners
- Attraction Park / Zoo: 94.83% for Nationals, 5.17% for Foreigners
- Matadero / Rio Area: 93.65% for Nationals, 6.35% for Foreigners
- Rio / Casa Campo: 92.67% for Nationals, 7.33% for Foreigners
- Wanda Stadium: 98.51% for Nationals, 1.49% for Foreigners
Where Visitors Spend Their Nights…

Nationals

Foreigners
Relationships between AOIs…

- City Center
- Castellana Area
- Serrano
- Northern Gran Via
- Debot Temple / Parque Oeste
- RETIRO PARK
OBSERVATIONS

• COMPLEXITY

• BENEFITS & CHALLENGES

• LOCALIZED INSIGHTS

• TENDENCIES

NEXT STEPS...
NEXT STEPS… (Nommon)

• Evolve our current solution

• New tourism projects: POLDER, San Pedro Alcántara (Marbella)…

• Nommon API (+Tourism):
  • Standard indicators
  • Updated information
  • Immediate access to massive information
  • Reduce costs
KEY IDEAS

• Mobile phone data provides relevant information about tourism dynamics but… … need of **data fusion**: avoid “overexploiting” mobile phone data

• Different solutions lead to very different results … … need of **rigorous validation** in real-world environments

• Importance of understanding the **capabilities and limitations** of the technology … avoid “magic/black box” solutions