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# Mobile Growth Strategy: Expedia

A case study by Nicolas Alberto Tobon

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# Purpose of this Presentation

**Analyze Mobile and Desktop Reservations Data  
for the Marketing Strategy of Hotels.com over  
the years of 2016-2017**



# Overview of this presentation

- **Daily Struggles of a Data Scientist**  
Highlights of cleaning, processing and finalizing the dataset
- **Our Insights into High-Growing Edge Cases**
  - ◆ Pakistan, Reunion Burkina Faso
  - ◆ Australia.
- **Future Considerations and Questions**  
Next steps to unlocking key insights to unlock potential customer value



## Tip

Remember. If something sounds like common sense, people will ignore it.

Highlight what is unexpected about your topic.

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# Filtering In Excel

- NA (string; North America) translation issues to NaN in Python (numeric; Not a Number)
  - `df.fillna('NAM')`
  - What to learn: Take some time to discover the tools offered by the software before approaching other known methods
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# What happens when you don't take advantage of excel

```
In [269]: ## Let's see the distribution of Super-Region NaN values by Property Country
```

```
NaN_Vals = NaN_df.groupby('Property Country')['Net Orders', 'Net Gross Booking Value USD'].sum()  
NaN_Vals
```

```
/Users/nicolastobon/opt/anaconda3/lib/python3.7/site-packages/ipykernel_launcher.py:3: FutureWarning: Indexing with multiple keys (implicitly converted to a tuple of keys) will be deprecated, use a list instead.  
This is separate from the ipykernel package so we can avoid doing imports until
```

```
Out[269]:
```

|                  | Net Orders | Net Gross Booking Value USD |
|------------------|------------|-----------------------------|
| Property Country |            |                             |
| Albania          | 28         | 3989.3384                   |
| Algeria          | 25         | 20173.3085                  |
| American Samoa   | 15         | 7211.7800                   |
| Andorra          | 20         | 3370.1336                   |
| Angola           | 1          | -3584.0000                  |
| ...              | ...        | ...                         |
| Vanuatu          | 14         | 6048.1600                   |

# Simple, elegant and stress-free

Country Name | Booking Window Group | Super Region

**Sort**

A Z ↓ Ascending | A ↓ Descending

By color: None

**Filter**

By color: None

Equals | NA

And | Or

Choose One

Search

(Select All)

APAC

EMEA

LATAM

NA

Auto Apply

Apply Filter | Clear Filter



Country Name

**Sort**

A Z ↓ Ascending | A ↓ Descending

By color: None

**Filter**

By color: None

Choose One

Search

(Select All)

US

Auto Apply

Apply Filter | Clear Filter

# Not enough data

In terms of prediction over time, relatively there is not enough weeks of data to make accurate predictions for the future

- Only 8 unique records of data covering the span of 8 arbitrary weeks across 2 arbitrary years

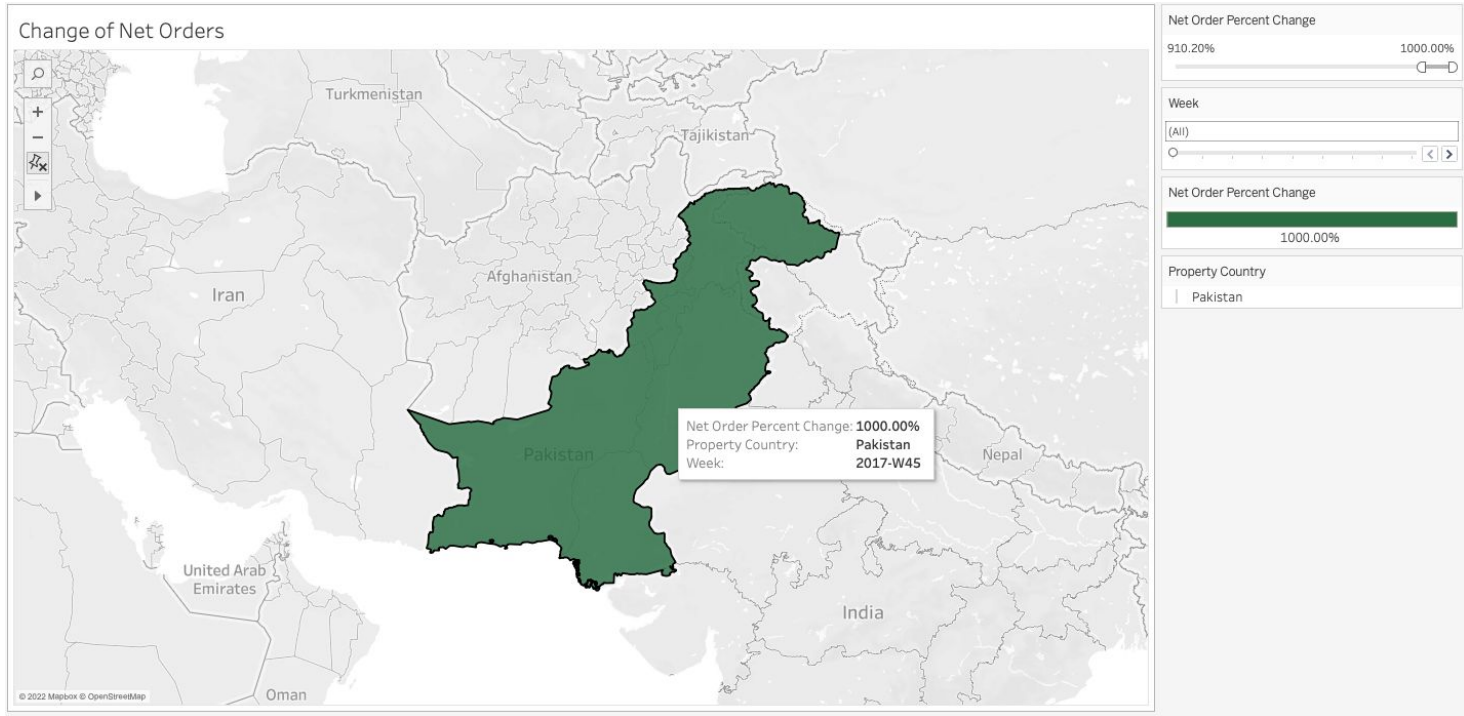
```
In [659]: len(df['Week'].unique())
```

```
Out[659]: 8
```

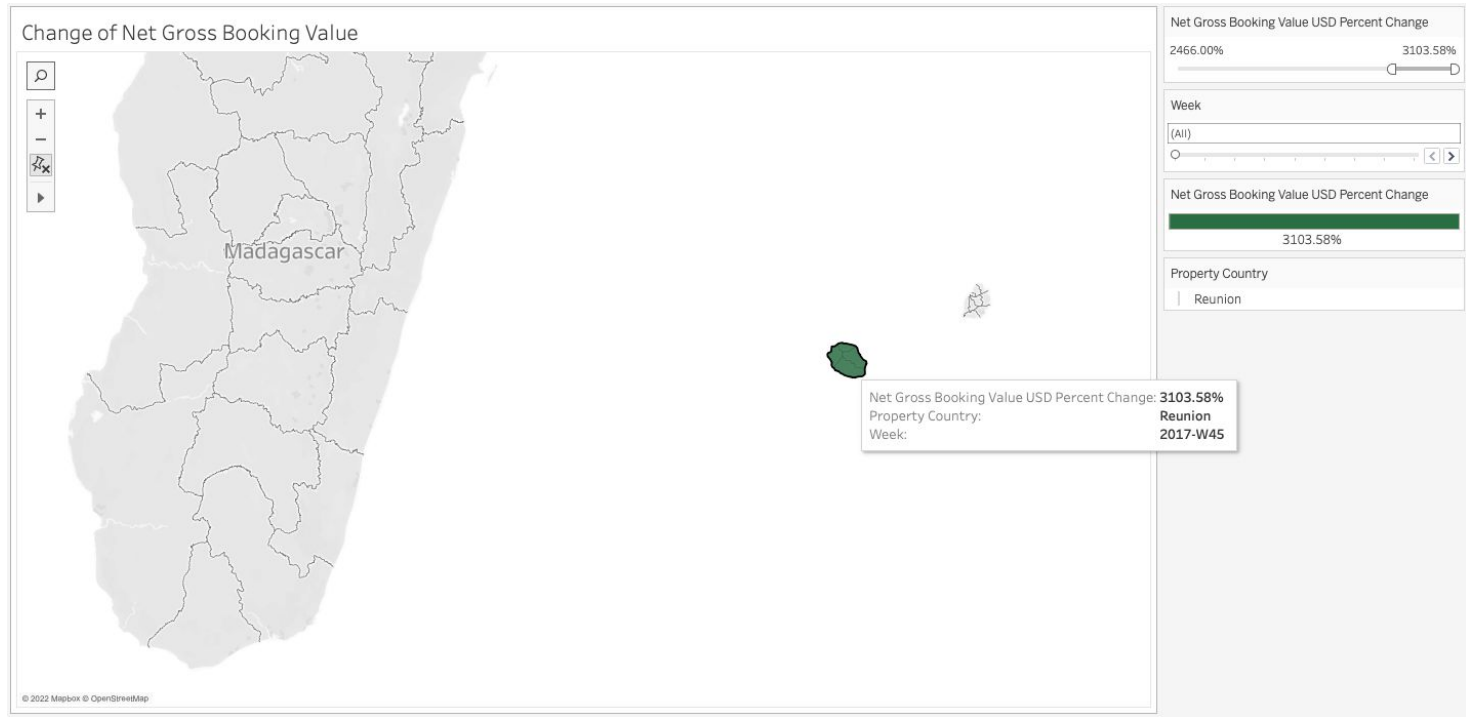
—

**Our findings our  
relevant Growth  
Periods**

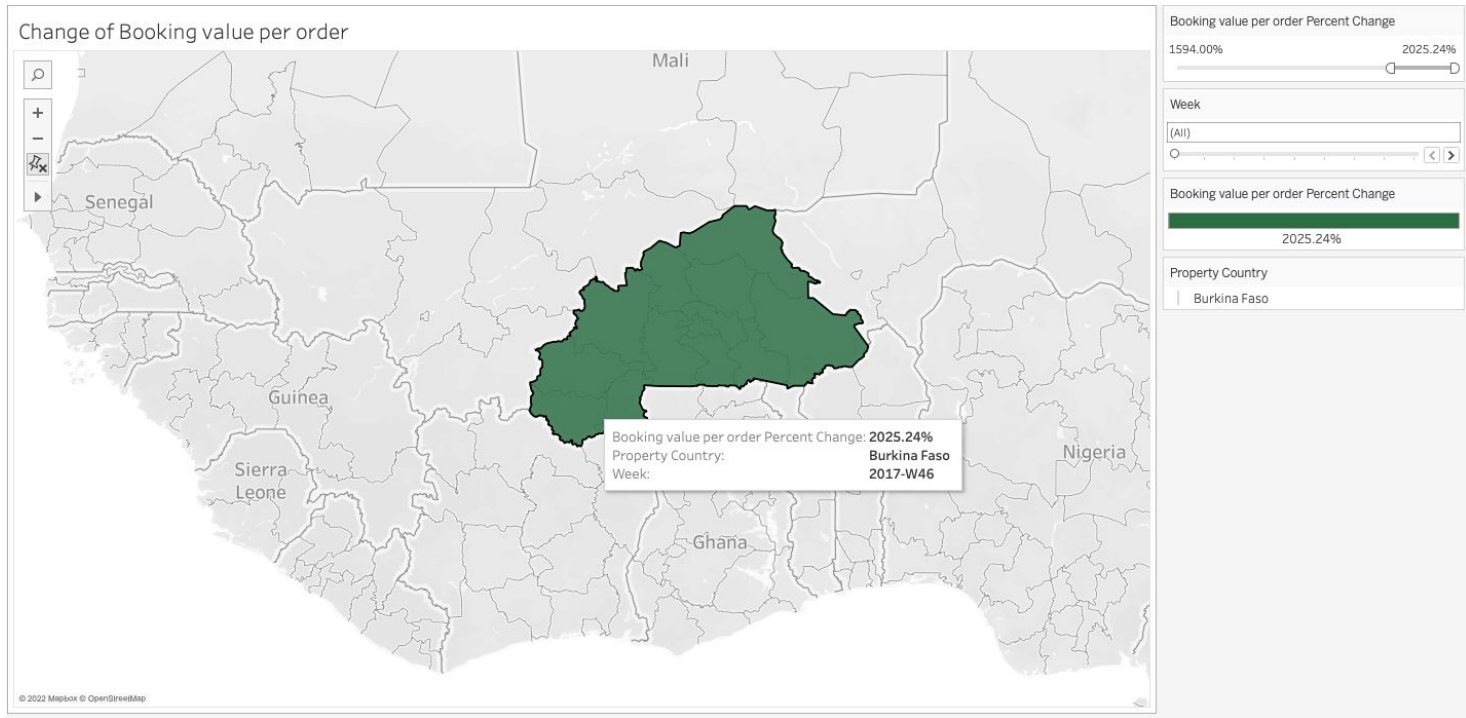




The period with the most growth in *Net Order's* was **Pakistan** from **2017-W44**  
**- 2017-W45**

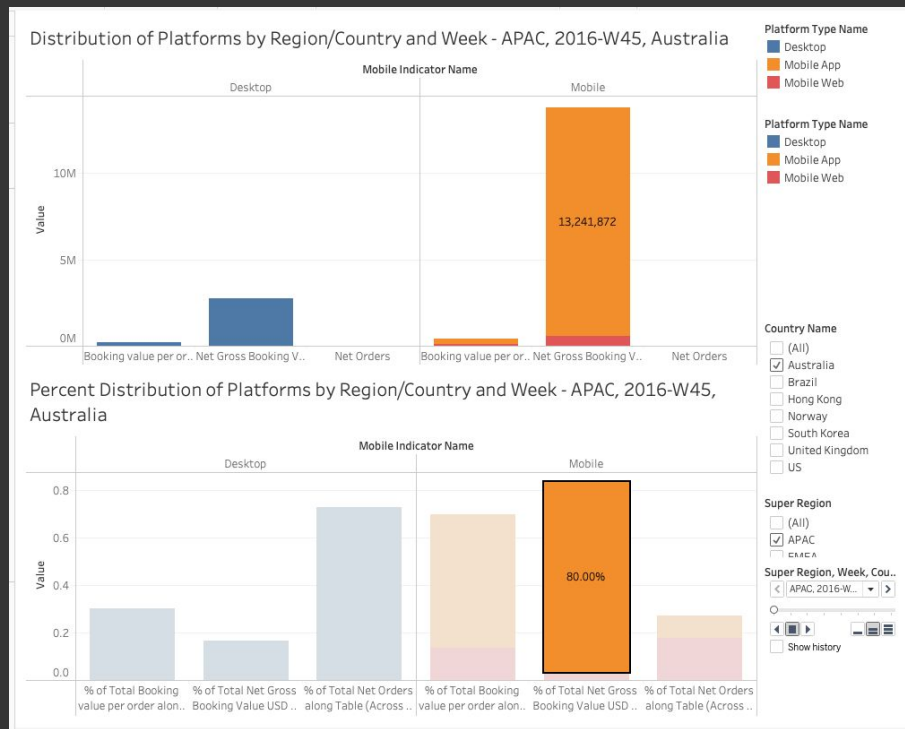


The period with the most growth in **Gross Booking Value USD** was **Reunion** from **2017-W44 - 2017-W45**



The period with the most growth in ***Gross booking value per order*** was **Burkina Faso** from **2017-W45 - 2017-W46**

Something very interesting happened in Australia during 2016-W45



# Proposal for Marketing Strategy

Prioritize marketing budgets  
*country-by-country* to *source*  
*countries* that contribute the most to  
the *booking value per order*.

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# Future Considerations

- **READING THE INSTRUCTIONS**
  - Step away from the screen, re-evaluate, make a plan, and return
  - Mapping all countries regardless of the record information
  - Variability in Order Metrics
  - Establishing reliable connections in Tableau
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# Discovering Factors of Change

- Source-Specific/Country-Specific Approach
  - PCA Model
  - Bootstrapping
  - Discovering traveler profiles
  - Trending cities
  - Variability in geo-political behavior throughout year to estimate periods of safe/not safe
  - Economic indicators
  - Key events
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# Questions to ask our data

- Is there a flat-fee commission for each order? Or is the commission solely based on transaction value?
  - Is there a specific reason why the booking window group is partitioned as such?
  - Is 90+ days supposed to signify a special period identified by Expedia for booking periods?
  - Are the bookings sources representative of the source country?
  - Why are there so little countries representing the entirety of booking source?
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Thank **you!**