The Art of Data Storytelling

Isaac Reyes

DataSeer
KEYS TO DATA STORYTELLING

DATA

VISUALS

Data Storytelling

AUDIENCE

NARRATIVE
KEYS TO DATA STORYTELLING

AUDIENCE
2015-2017 Staff Headcount Change by Department

- Marketing: 430
- Operations: 400
- Sales: 376
- IT: 187
- HR: 350
Marketing was our fastest growing department

In contrast, the IT team shed 64 full-time positions as core support roles were outsourced.
My relationships have increased in intensity and length over time

Whilst Kristina almost scared me away from marriage for good, I am ready to commit again.
KEYS TO DATA STORYTELLING

VISUALS
Ranking of Elementary Perceptual Tasks

William S. Cleveland and Robert McGill
Most accurate

Least accurate
Most accurate

Least accurate
Most accurate

Least accurate
Most accurate

Least accurate
Item A: 11%
Item C: 5%
Apple’s Global Revenue Share by Region Over Time

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>38</td>
<td>34</td>
<td>37</td>
<td>38</td>
<td>37</td>
<td>32</td>
<td>41</td>
<td>37</td>
<td>37</td>
<td>39</td>
<td>39</td>
<td>41</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>24</td>
<td>22</td>
<td>24</td>
<td>22</td>
<td>24</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Greater China</td>
<td>13</td>
<td>19</td>
<td>15</td>
<td>15</td>
<td>13</td>
<td>19</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>14</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>11</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Rest of Asia Pacific</td>
<td>8</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Retail</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

- **Americas**: Blue line
- **Europe**: Orange line
- **Greater China**: Gray line
- **Japan**: Green line
- **Rest of Asia Pacific**: Yellow line
- **Retail**: Light blue line
“Above all else, show the data”
- Edward Tufte
Data-ink ratio = \frac{\text{Data-ink}}{\text{Total ink used to print the graphic}}
The Gestalt Laws of Visual Perception

Max Wertheimer, Kurt Koffka and Wolfgang Kohler
The Gestalt Law of Proximity
The Gestalt Law of Proximity
The Gestalt Law of Similarity
The Gestalt Law of Similarity
Apple’s Global Revenue Share by Region Over Time

| Q4  | Q1  | Q2  | Q3  | Q4  | Q1  | Q2  | Q3  | Q4  | Q1  | Q2  | Q3  | Q4  | Q1  | Q2  | Q3  | Q4  | Q1  | Q2  | Q3  | Q4  | Q1  | Q2  | Q3  | Q4  | Q1  | Q2  | Q3  | Q4  | Q1  | Q2  | Q3  | Q4  | Q1  | Q2  | Q3  | Q4  | Q1  | Q2  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2011|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2012|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2013|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2014|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2015|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
Greater China is on track to become Apple’s largest market by 2017.

- Americas, 37%
- Greater China, 29%
- Europe, 21%
- Rest of APAC, 7%
- Japan, 6%

<table>
<thead>
<tr>
<th>Quarter</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Greater China is on track to become Apple’s largest market by 2017.
Gestalt Laws: Enclosure
“People say data analysis is boring, but you can calculate the exact moment that Robert De Niro stopped caring.” - @chapmangamo
“People say data analysis is boring, but you can calculate the exact moment that Robert De Niro stopped caring.” - @chapmangamo
KEYS TO DATA STORYTELLING
Smartphone handset sales by company over time

Handset Shipments (millions)

- Apple
- Samsung
- Huawei
The Smartphone Market is Born

Steve Jobs introduced the world’s first smartphone, the iPhone on June 29, 2007.
The Smartphone Market is Born

The successor to the original iPhone, the iPhone 3G is released on July 11, 2008.
The Smartphone Market is Born

Its first quarter was a sales success.
Samsung enters the fray

**Samsung** rapidly overtook Apple as the number one manufacturer, driven by the strong selling Galaxy S 2.
KEYS TO DATA STORYTELLING

DATA

VISUALS

NARRATIVE

AUDIENCE

Data Storytelling
ISAAC REYES on
Data Storytelling

Register at
dataseer.com.sg

JOIN US!
March 1-2, 2018
IN SINGAPORE