The Challenge of Digital Analytics & Intelligence

Giovanni Lorenzoni, CEO
Seville, 22/09/2015
BitBang – Overview

- Digital Analytics, Digital Intelligence, Customer Intelligence, Advanced Analytics, Optimization & Customer Experience Management consultancy company
- Business Analysts, Data Engineers, Data Scientists
- More than 10 years of experience in visitor acquisition, conversion and retention
- Multiple industries
- Marketing, Business, IT
Digital Data is a Paradigm of Big Data

- Digital Data are characterized by:
  - Millions of activities per day
  - Many variables for each activity
  - Flow of information not always clearly aggregated
  - High cardinality of the variables (page name, product sets, referrers, campaigns, etc.)

- A revealing use of this information depends on the understanding of visitors’ behavior, which can not be inferred from a single record representing an outlying activity on the site (i.e. a page view)

Digital Data constitute the context in which event-level aggregation, through the application of a data model, pinpoints the added value that can be drawn from visitors’ touchpoints
What are the most common use cases in Big Data?

1. Solutions that focus on efficiency and risk

2. IT analytics solutions that focus on security and application performance

3. BT solutions that help understand and serve customers
Actionable Marketing Analytics

Helps marketers tell the story of what’s happening in their business.

With data.

And promote data-driven actions to impact business results.
What do Marketing Analytics Do for the Business

Analytics uses data to guide how digital marketers…

Increase Conversions

Improve Sentiment

Increase Revenue / Bookings / Orders

Increase Traffic

Increase Average Order Value

Reduce Customer Churn

Increase Engagement

Reduce Time To Market
Big Data Has Potential Positive Impacts Across The Customer Life Cycle

- Target best customers
- Engage on preferred channels in right context

- Smarter product improvements; new product design
- Deeper understanding of the voice of the customer

- Fewer issues through predictive maintenance
- Faster resolution of customer cases

- Deeper understanding of channel behavior
- Finer segmentation
- Smarter mix modeling

- Highly personalized content
- Easy navigation of offerings
- Improved outcomes as buyers jump channels

- Better offer targeting
- More-knowledgeable sales personnel
- Improved inventory and capacity management

Source: Forrester Research
Maarten’s Law of Marketing Data and Understanding

- Increase in Marketing Data
- Decrease in Marketing Understanding
Types of Data to Deal With

- Customer
- Target
- Multichannel
- Big
- Digital
- Performance
- Social
- Behavioural
- Warehouse
- Voice of Customer
- Back-office
- Web analytics
- CRM
- Attribution
- DMP
- Profiling
- Machine
- Voice of Customer

Data
Digital Intelligence Architecture
Challenge 1
The Unknown Destinations
Challenge 2
Data, Data Everywhere
Penguins are black and white.
Some old TV shows are black and white.
Therefore, some penguins are old TV shows.

Logic: another thing that penguins aren’t very good at.
The “Always Addressable Customer”

**Multiple devices**
Own and personally use at least three connected devices

**Multiple locations**
Go online from multiple physical locations, including at least one on the go

**Frequent access**
Go online multiple times a day

**The always addressable customer**

Source: Forrester Research, “The Always Addressable Customer”
The Lack of A Holistic Approach

- Data siloed
- Difficult joins
- Disconnections between online behaviour and marketing campaigns
- No Single Customer View
- Inability to activate "intelligent" campaigns
Challenge 3
Technology Abundance
Marketing Analytics Marketplace

CMO-centric

- Customer experience tracking
- E-commerce
- DMP
- Ad effectiveness
- Brand / social analytics
- Segmentation
- Attribution
- Testing / personalization
- Cross platform & campaign tracking
- SEO / SEM
- Tag management
- Mobile / app analytics
- Data visualization
- Machine learning / Big Data

CIO-centric

- Conversion / optimization
- Customer insights
- Legacy BI and Data Warehouse

Hundreds of Vendors

Source: VB Insight, August 2015
### Use of Data-Related Tools and Technology

<table>
<thead>
<tr>
<th>Tool</th>
<th>Currently using</th>
<th>Planning to use</th>
<th>No plans to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web analytics</td>
<td>96%</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Excel</td>
<td>90%</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>Social analytics</td>
<td>65%</td>
<td>27%</td>
<td>9%</td>
</tr>
<tr>
<td>Mobile analytics</td>
<td>52%</td>
<td>31%</td>
<td>17%</td>
</tr>
<tr>
<td>A/B or multivariate testing</td>
<td>51%</td>
<td>34%</td>
<td>15%</td>
</tr>
<tr>
<td>Relational (SQL) database</td>
<td>49%</td>
<td>18%</td>
<td>33%</td>
</tr>
<tr>
<td>Business intelligence</td>
<td>49%</td>
<td>33%</td>
<td>19%</td>
</tr>
<tr>
<td>Tag management</td>
<td>43%</td>
<td>31%</td>
<td>26%</td>
</tr>
<tr>
<td>Attribution</td>
<td>33%</td>
<td>48%</td>
<td>19%</td>
</tr>
<tr>
<td>Campaign automation</td>
<td>33%</td>
<td>40%</td>
<td>27%</td>
</tr>
<tr>
<td>Statistical package</td>
<td>31%</td>
<td>24%</td>
<td>45%</td>
</tr>
<tr>
<td>Session monitoring</td>
<td>30%</td>
<td>35%</td>
<td>35%</td>
</tr>
<tr>
<td>Data management platform (DMP)</td>
<td>13%</td>
<td>31%</td>
<td>66%</td>
</tr>
<tr>
<td>NoSQL database</td>
<td>12%</td>
<td>16%</td>
<td>71%</td>
</tr>
<tr>
<td>Demand-side platform (DSP)</td>
<td>10%</td>
<td>21%</td>
<td>69%</td>
</tr>
</tbody>
</table>

Source: Econsultancy, November 2014
“Technology is only one part of the equation, the other piece is human”

Brian Solis, Digital Analyst
Challenge 4
The Shortage of Talent
The United States alone faces a shortage of 140,000 to 190,000 people with analytical expertise and 1.5 million managers and analysts with the skills to understand and make decisions based on the analysis of big data.

Source: McKinsey & Company
### In what areas are the biggest skills gaps?

<table>
<thead>
<tr>
<th>Skill Area</th>
<th>First choice</th>
<th>Second choice</th>
<th>Third choice</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using digital analytics tools</td>
<td>20%</td>
<td>16%</td>
<td>11%</td>
<td>47%</td>
</tr>
<tr>
<td>Statistical modelling</td>
<td>17%</td>
<td>10%</td>
<td>13%</td>
<td>40%</td>
</tr>
<tr>
<td>Conversion rate optimisation</td>
<td>13%</td>
<td>12%</td>
<td>12%</td>
<td>37%</td>
</tr>
<tr>
<td>Using business intelligence tools</td>
<td>12%</td>
<td>13%</td>
<td>11%</td>
<td>36%</td>
</tr>
<tr>
<td>JavaScript programming</td>
<td>7%</td>
<td>8%</td>
<td>5%</td>
<td>21%</td>
</tr>
<tr>
<td>Stakeholder management</td>
<td>6%</td>
<td>5%</td>
<td>8%</td>
<td>19%</td>
</tr>
<tr>
<td>Querying database</td>
<td>6%</td>
<td>8%</td>
<td>5%</td>
<td>19%</td>
</tr>
<tr>
<td>Quality assurance (QA)</td>
<td>5%</td>
<td>6%</td>
<td>7%</td>
<td>18%</td>
</tr>
<tr>
<td>Project management</td>
<td>7%</td>
<td>5%</td>
<td>6%</td>
<td>18%</td>
</tr>
<tr>
<td>Requirements gathering</td>
<td>5%</td>
<td>7%</td>
<td>7%</td>
<td>18%</td>
</tr>
<tr>
<td>Producing reports</td>
<td>3%</td>
<td>6%</td>
<td>8%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Source: Econsultancy, November 2014
The Black Hole Between Data and Knowledge

Information Anxiety is produced by the ever-widening gap between what we understand and what we think we should understand. It is the black hole between data and knowledge, and it happens when information doesn’t tell us what we want or need to know.
Challenge 5
Domain of Expertise
Marketing Customer Data Evolution

Source: VB Insight, August 2015
What Skill Sets Do I Need for Analytics?

- **Understand Data**
  - Integrate and Manipulate
  - Structured, Content and Hybrid Data
  - Quality Assurance
  - Big Data

- **Know Analytics**
  - Appropriate Techniques
  - Interpret Data and Diagnose Models
  - Meet Business Requirements

- **Focus on the Business**
  - Goals
  - Constraints
  - Decisions
  - Change Management
  - Communication of Results

Source: Gartner, 2013
Challenge 6
Governance
Organizations Need Data Leadership – The CDO Emergence

Organizations with a CDO are...

70% more likely to better ensure compliance and reduce risks and 60% more likely to increase business agility than those without a CDO.

53% more likely to make new data available within days, compared to weeks for peers without a CDO.

88% more likely to have adopted big data technologies and solutions.

86% more likely to commercialize their data.

70% more likely to do a good job attracting, hiring, training, growing and retaining business intelligence talent.

Base: 1,347 global data and analytics decision-makers whose firm have or are planning to have a Chief Data Officer.

Source: Forrester’s Global Business Technographics® Data And Analytics Survey, 2015
# The Need for Legal and Regulatory Compliance

## Personalizzazione delle impostazioni dei cookie

Dell rispetta la privacy. Questo strumento consente di controllare i cookie usati nei nostri siti Web e fornisce informazioni su come la disattivazione di alcuni tipi di cookie influenza l’utilizzo del sito.

<table>
<thead>
<tr>
<th>Tipo di cookie</th>
<th>Scopo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personalizzazione</td>
<td>Dell utilizza queste informazioni per semplificare l'accesso, la navigazione e l’acquisto e per visualizzare i prodotti e i servizi che più interessano.</td>
</tr>
<tr>
<td>Analisi</td>
<td>Consente a Dell di misurare il traffico del sito e le sue funzionalità. In questo modo Dell può testare le strutture delle pagine e migliorare costantemente l’esperienza di utilizzo dei propri siti Web.</td>
</tr>
<tr>
<td>Raccomandazioni da parte dei partner</td>
<td>Personalizza i prodotti e i servizi consigliati che vengono pubblicizzati dai nostri partner.</td>
</tr>
<tr>
<td>Strettamente necessari</td>
<td>Questi sono i cookie strettamente necessari per spostarsi all’interno del sito e per utilizzarne tutte le caratteristiche, come il carrello degli acquisti e la possibilità di effettuare l’accesso.</td>
</tr>
</tbody>
</table>

[Ulteriori informazioni](#)

**Uso dei cookie da parte di Dell**

**Informativa sulla privacy di Dell**
Some Use Cases
Frequent Pattern Mining

**Objective**
Find behavioral patterns in the buying experience to determine effective up-sell and cross-sell promotions.

**Hypothesis**
The propensity to buy is correlated with technology specifics and features.

**Methodology**
Classification algorithms continuously process data to define and select association rules between devices and products identifying the proper customized experience for each user.
Use Case - Touch Point Analysis

61%
1 Touch point

12% 2 Touch points
5% 3 Touch points
3% 4 Touch points
2% 5 Touch points

17% >5 Touch points

69% 61%

72% 71% 71%

24%

44% 47% 13%

66% 64% 63%

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Use Case - Touch Flow

Non Paid

Paid

Sono esclusi gli u.v. che hanno utilizzato 1 solo canale
U.V.
Use Case - Touch Points Alluvial Diagram

Periodo temporale di riferimento 05/2013 - 07/2013
Portfolio Performance: Attribution Analysis

Once the business objective shifts toward the consideration phase, our next step is to identify the best media mix, which requires the application of a customized attribution model. The custom model highlights the inadequacy of the last-touch one and the key role of the lastly-reconsidered DEM channel to achieve the objective.
Community Performance

Opinion Leader Analysis | December 2013

Among gathered contents, the main authors are selected by the number of Replies Authored. The chart also shows the number of likes and the total amount of visits to the community.

It is also shown the user profile and the most recent posts of the user who gathered the highest number of Replies Authored.

TOP TRAFFIC SOURCES

- 73.5% Google (organic & cpc)
- 13.7% Direct
- 8.7% Site:com
- 1.7% Altri motori di ricerca
- 0.2% Facebook

TOP 3 FORUM SECTIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page Views</th>
<th>% Total</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demande a sole mobile</td>
<td>52,184</td>
<td>31.1%</td>
<td>+32.3%</td>
</tr>
<tr>
<td>Demande a sole SMARTY</td>
<td>26,544</td>
<td>15.3%</td>
<td>+29.9%</td>
</tr>
<tr>
<td>Demande a sole</td>
<td>11,398</td>
<td>7.1%</td>
<td>+33.8%</td>
</tr>
</tbody>
</table>

MEMBERS

- COMPLETED REGISTRATIONS: 784 (+15.5% change from previous month)
- MEMBERS FROM FACEBOOK: 92 (11.7% Facebook registration)

The largest amount of new member registrations was made via WEB. Only the 11.7% of registrations were done through Facebook Connect.

MEMBERS

- 692 (88.3%) Total Registrations

The number of user registrations completed in the selected time period includes all abandoned registrations. A registration is considered completed when the user finishes the sign-up flow and is given a unique ID.

Google (Search engine) increased as traffic source last month (75.7% vs 76.4%). However Direct Traffic brought exactly the same amount of visitors (23.7%).

“Domenanda e alati mobile” is still the most viewed forum sections with 62,116 pageviews (+43.7%), but the biggest gain is from “Domenanda e alati SMART TV” (+106.9% vs November).
Thank you
glorenzoni@bitbang.com