

**INTERNATIONAL WORKSHOP**  
BBVA Foundation – Ivie

**Measures to enhance  
productivity growth.**  
New developments

October 30<sup>th</sup> 2017 – Faculty of Economics



# User Generated Content Knowledge Leads to Brand Evaluations

**Enrique Bigné**

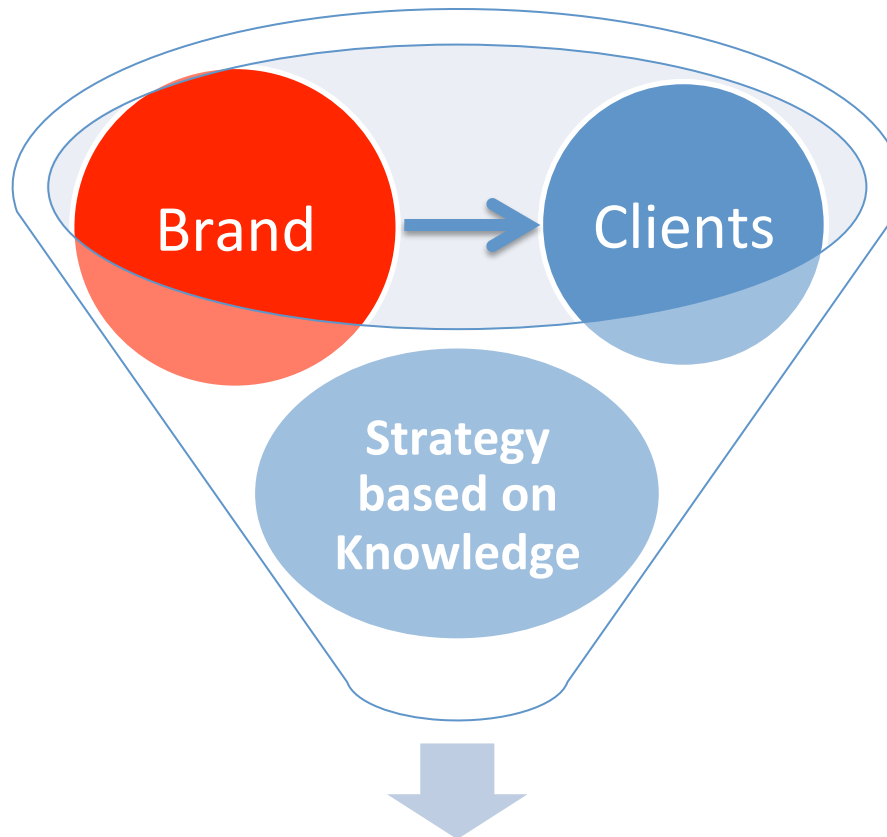
Professor of Marketing



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**UGC knowledge leads to brand evaluations**

# Main MARKETING ASSETS for a company



Brand Sales, Brand Loyalty, Brand Love, Brand Personality  
Brand Engagement, Brand Emotional Attachment

## What's new?

What has changed  
in the last  
10 years?

# 11 years ago....March 2006 in CA



Jack Dorsey, Evan Williams, Biz Stone and Noah Glass

# Today

**328** million monthly  
active users

**500** million tweets  
per day

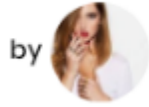


In 2016, the company generated more than **2.25 billion US dollars** in advertising service revenues

<http://www.internetlivestats.com/one-second/#tweets-band>



# Training in Santa Monica with Nike



by

Chiara Ferragni

CHIARA FERRAGNI  
30y

10.5M followers in  
Instagram

Dior, Chanel, Moschino,  
Saab, Mercedes  
Armani, Nike,  
Pull&Bear,  
Pronovias  
Max Mara  
Pantene

Chiara Ferragni Collection

HBR Case 2014



UGC knowledge leads to brand evaluations

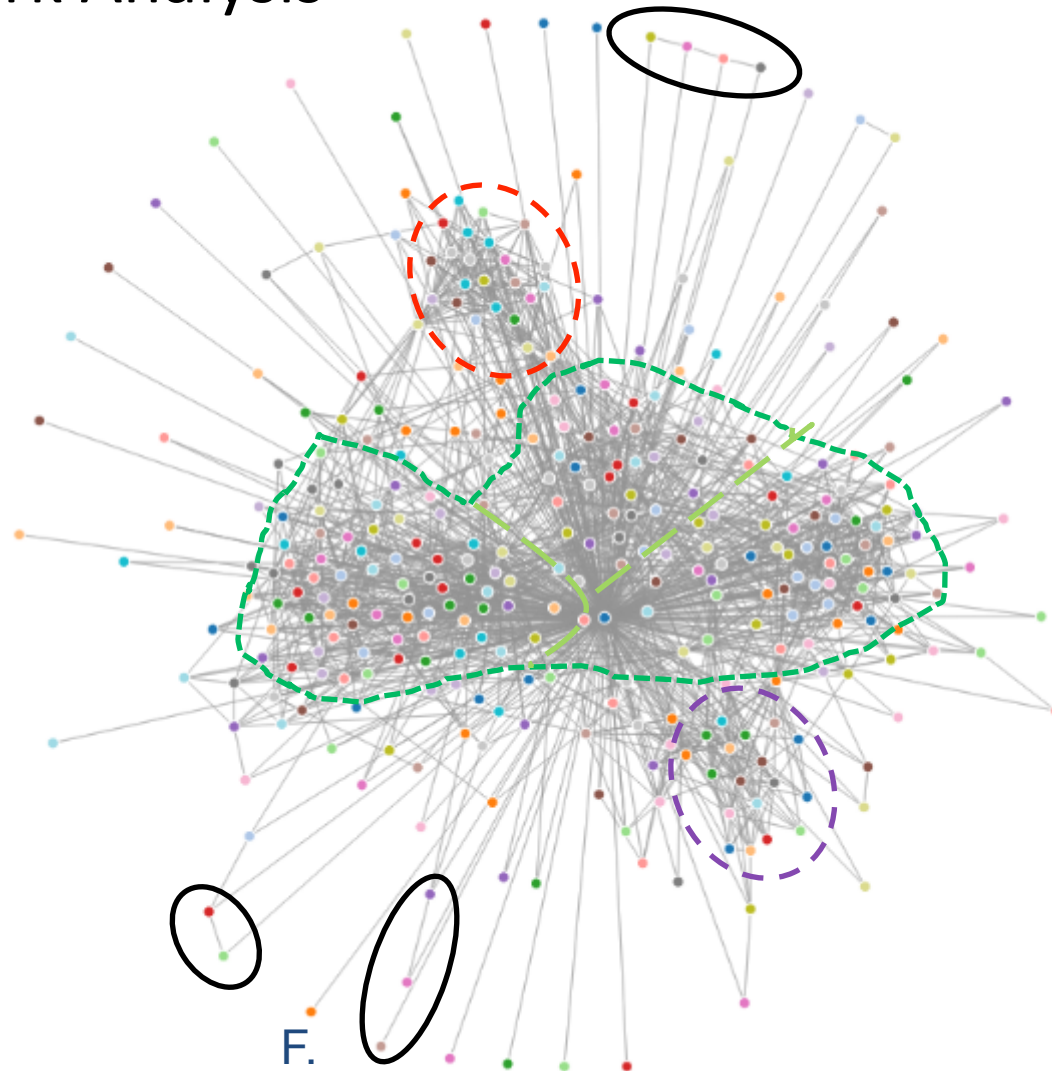
# Soft and hard analytics: from word cloud to ML

## Social Network Analysis

My LinkedIn

Clusters:

- Market Research
- Tourism
- MK: VLC/SP/  
International
- Other clusters



# Soft and hard analytics: from word cloud to ML



Rajeev Batra, Aaron Ahuvia, & Richard P. Bagozzi

**Brand Love**

UGC knowledge leads to brand evaluations



# Today's digital environment empowers consumers

**UGC** is named as **eWOM**, electronic word of mouth

Any positive or negative statement made by **potential, actual, or former customers** about a product or company, which is made available to a **multitude of people** and institutions via the **Internet**.

*Hennig-Thurau, Qwinner, Walsh & Gremler (2004) JIMk*

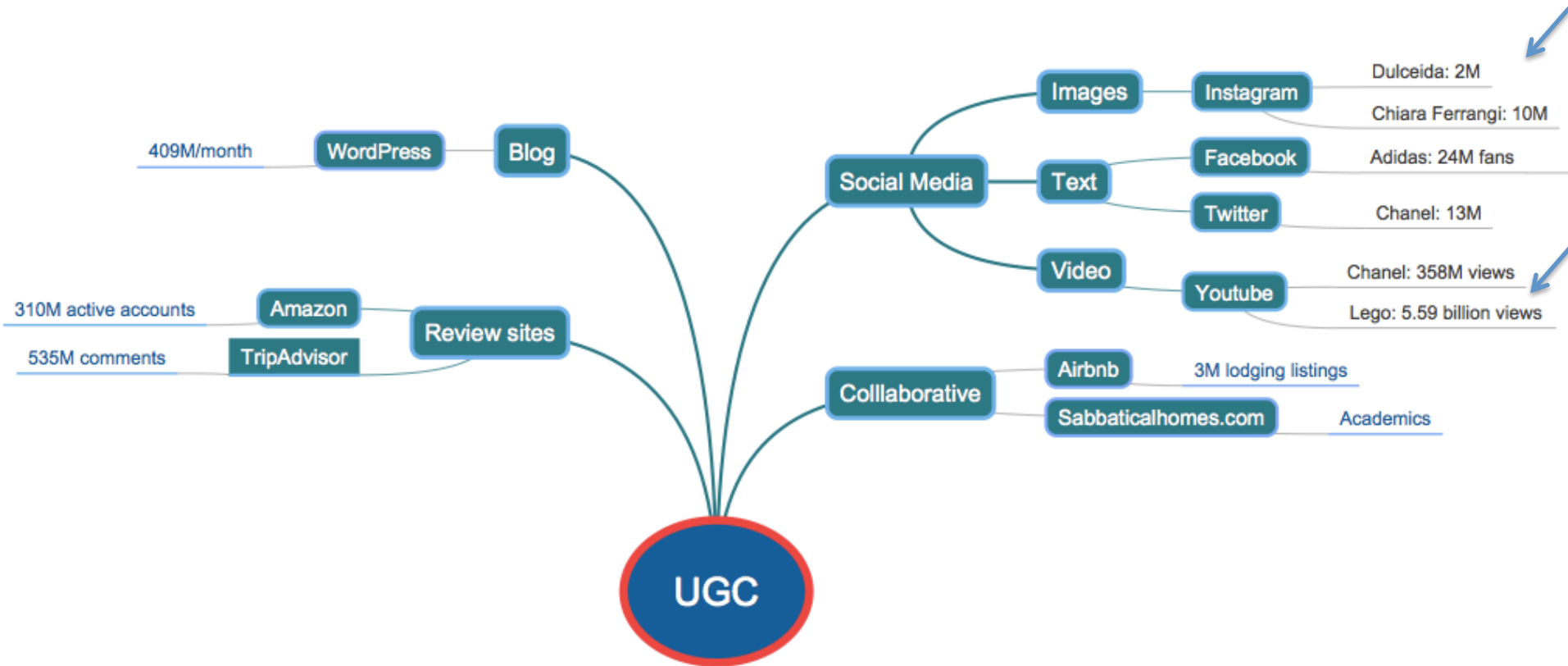
## 3 consequences that enhance brand productivity

More  
influential  
on brand  
choice

Data  
availability  
(*massive,  
instant*)

**New paradigm:**  
theoretical  
rooted and  
boosted by  
analytics

# UGC: A bundle of “recent” options



Source: Own elaboration

# Is this just for FUN & ENTERTAINMENT?

# Fun or \$?



***United Breaks Guitars*** is a song by Dave Carroll posted on YouTube. It chronicles a real-life experience of how his guitar was broken during a trip on United Airlines in 2008, and the subsequent reaction from the airline. The song has more than 17.7M YouTube views, he published a book, a blog, a Wikipedia page ....

within 4 weeks of the video being posted online, **United Airlines' stock price fell 10%**, costing stockholders about **\$180 million in value**



# Data Revolution



## Enrich data environments, such as UGC

- Data/Text/Image Mining
- ANN, Automatic Machine Learning, Deep Learning
- Agent-Based Modeling
- Markov Chain Monte Carlo



## Transformation of Marketing Science

- From Standardization to Personalization
- Deeper service relationships
- Dynamic customer interaction
- Customized Relationship Management

Rust & Huang (2014) and Bigné (2015)

UGC knowledge leads to brand evaluations



# UGC: General findings

- has **no age**
- is more **memorable** than other media sources
- brands are **increasingly investing** (marketers expected to expand social media spend by 89% in next 5 years-Duke CMO Survey)
- is **boosting sales** and also **Brand Loyalty, Brand Love, Brand Personality, Brand Engagement, Brand Emotional Attachment**
- **Available data** from consumers
- New type **of analytics**

# How does UGC affect brand performance?



Journal of Retailing 90 (2, 2014) 217–232

Journal of  
Retailing

## How Online Product Reviews Affect Retail Sales: A Meta-analysis

Kristopher Floyd, Ryan Freling, Saad Alhoqail, Hyun Young Cho, Traci Freling\*

College of Business Administration, University of Texas at Arlington, Arlington, TX 76019, United States

Ya You, Gautham G. Vadakkepatt, & Amit M. Joshi

## A Meta-Analysis of Electronic Word-of-Mouth Elasticity

Journal of Marketing  
Vol. 79 (March 2015), 19–39

ANA BABIĆ ROSARIO, FRANCESCA SOTGIU, KRISTINE DE VALCK, and TAMMO H.A. BIJMOLT\*

## The Effect of Electronic Word of Mouth on Sales: A Meta-Analytic Review of Platform, Product, and Metric Factors

Journal of Marketing Research  
Vol. LIII (June 2016), 297–318

# 3 meta-analysis in a few words

## + than 100 studies

- Online reviews: Higher sales elasticities by:
  - Experts, third party website, review valence and review volume
- Online reviews, SM and blogs: Higher sales elasticities for:
  - Durables, low triability products, specialized sites, insensitive to platforms
- eWOM: sales in e-commerce > than in SM, and no differences across tangible goods, services, and digital products, or between hedonic and utilitarian products

# UGC leads to enhance brand productivity

Two answers to two questions

- ① Do DMOs' tweets enhance hotel occupation?
- ② How can managers handle multiple platforms of online reviews?

# Tourism Destination Tweets Predict Hotel Occupancy: An ANN Study

Bigné, Andreu & Oltra (2017)

**Tweets of a tourism destination** can be sorted into 4 types:

- **events** held at the destination
- resources/**attractions** located at the destination
- a **friendly online atmosphere** between DMO and the user
- **marketing activities** by the DMO

Which one impacts more, if any, on hotel occupancy (third party)?



Data analysis steps:

1. Extraction

2. Analysis

3. Treatment

## 1) *Data Extraction.*

Twitter API: (1) original tweets by DMOs, (2) retweets by DMOs, (3) replies by DMOs, (4) retweets by users, (5) favorites by users.

## 2) *Data Analysis.* Text mining tools:



QDAMINER

generates files that contain information and tokens.



WORDSTAT

generates: (1) keywords analysis; (2) co-occurrence analysis; (3) entities extraction and representation; and (4) crosstab.

## 3) *Treatment: Artificial Neural Networks, ANN*

Multilayer Perceptron Network ANN with feedforward architecture

# Tourism Destination Tweets Predict Hotel Occupancy: An ANN Study

**CO-OCCURRENCE ANALYSIS:** visual overview of the categories of tweets.  
Association strength ---> relation intensity between keywords.



twitter

Strength:

0 - 0,4

0,41- 0,7

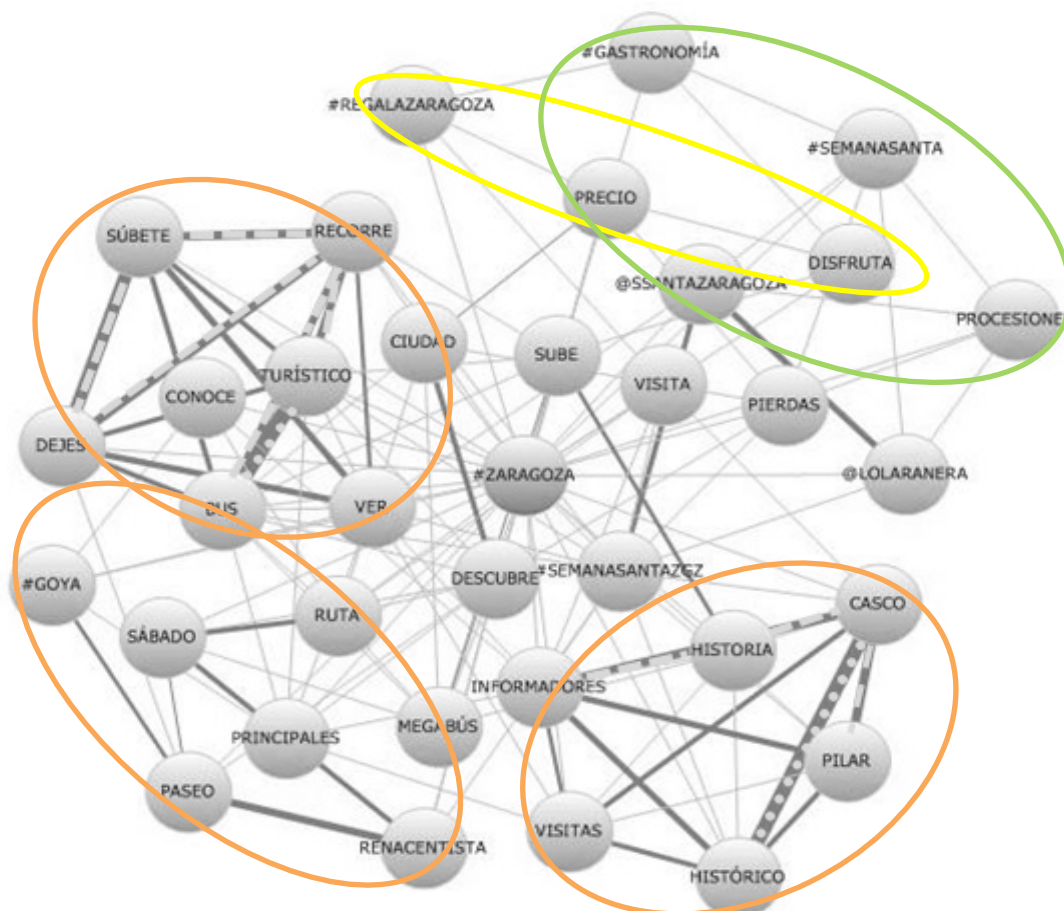
0,71-1

Tweets Categories:

Resources

Marketing

Events



Co-occurrence Map of @ZaragozaTurismo

# Conclusions

- Hotel occupancy rate is influenced by a third party activity (DMOs):
  - (1) event tweets (higher than other type of) and (2) retweets by DMOs,
  - (3) tweets and (4) retweets by users.



# Simplifying Massive Data Managing

## Enhances managerial productivity

Now, imagine you are a manager handling multiple sources of data. How can you cope with it?

Data set: **online reviews** from  
1,165 hotels  
7 variables  
8 platforms  
27 consecutive months

Platforms	Requirement for online reviews
Agoda.com	Reservation and stay are requested
Booking.com	Reservation and stay are requested
Expedia.com	Reservation and stay are requested
Hotels.com	Reservation and stay are requested
Travelocity.com	Reservation and stay are requested
Holidaycheck.com	None
Hostelworld.com	None
TripAdvisor.com	None
Trivago.co.uk	None
Trivago.de	None
Yelp.com	None

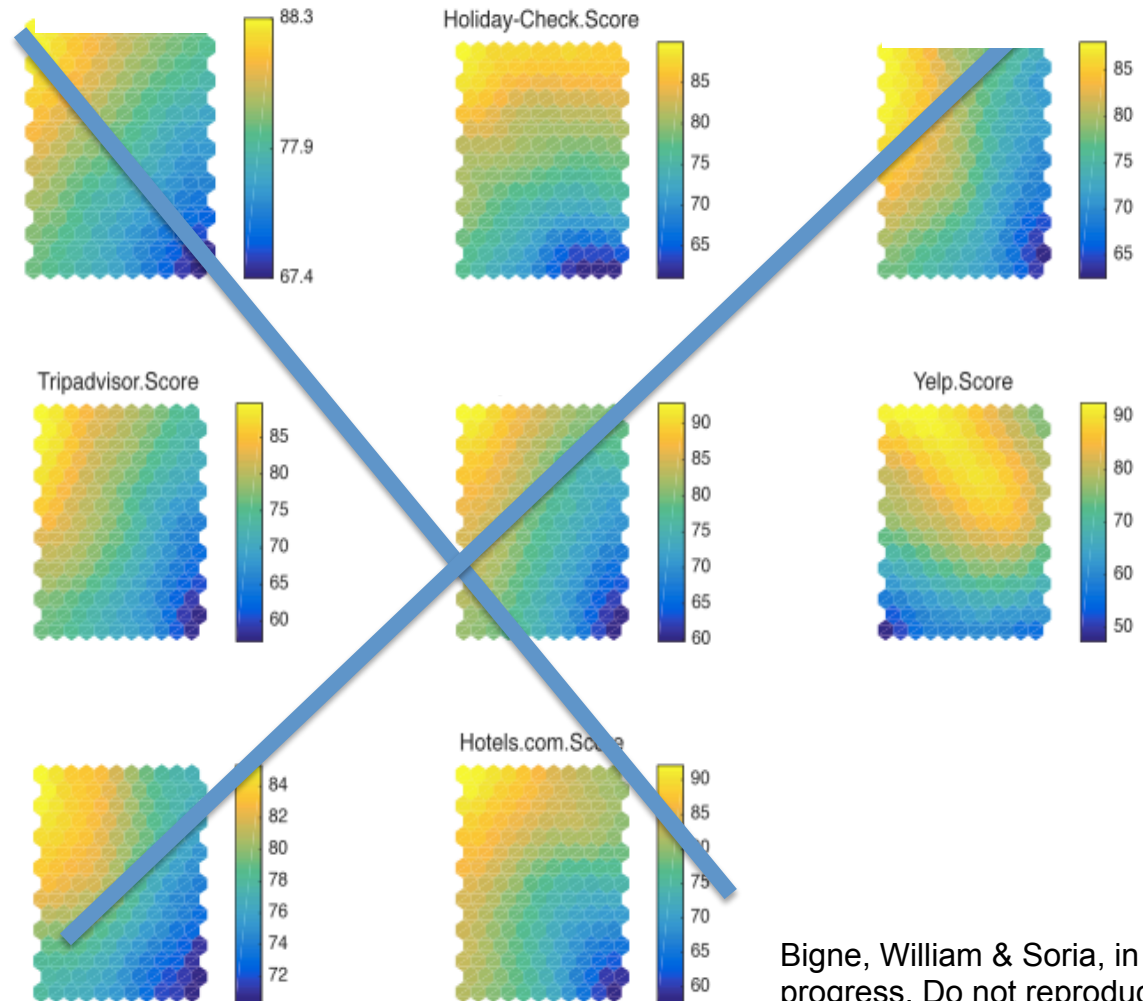
# Simplifying Massive Data Managing

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Hotels.com	Reservation and stay are requested
Travelocity.com	Reservation and stay are requested
Holidaycheck.com	None
Hostelworld.com	None
TripAdvisor.com	None
Trivago.co.uk	None
Trivago.de	None
Yelp.com	None

Self-Organized Map, SOM



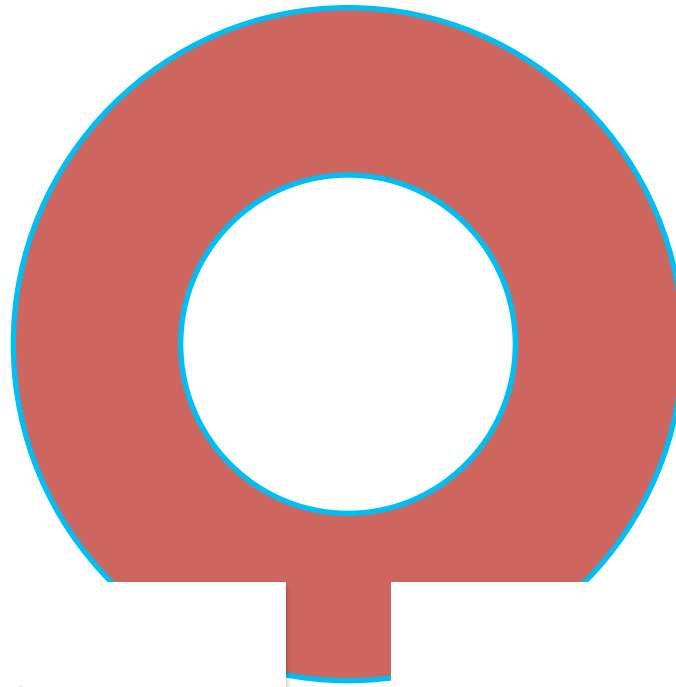
Bigne, William & Soria, in progress. Do not reproduce



# Conclusions

- ① eWOM affects sales with small budgets
- ② Magnitude is unclear → Inconclusive results: Seiler (2017, articles in advance)
  - Twitter increases demand 0.2
  - TV advertising increase demand in 0.12
- ③ Paid media (advertising) vs. earned media (ewom):
  - Paid media has more exposures but earned media is more impactful (Lovett and Staelin, 2016)
- ④ New tools for brand evaluations enhance brand productivity and effectiveness

# Future directions



## New agents

New research with a focus on  
USERS as producers

## Biomarketing

An emerging paradigm linking  
neuroscience, endocrinology, and  
genetics to buyer-seller behavior

*Richard P. Bagozzi and Willem J.M. I. Verbeke*

In Moutinho, Bigne and Manrai (2014). *The Future of Marketing*

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*Thank you!*  
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