



# *ReInHerit* WEBINAR



*ReInHerit*

“Visitor studies in the digital age:  
understanding digital audience engagements”

**7 April 2023 | 3:00–4:00 pm (CET)**



European  
Commission

# Visitor studies in the digital age: understanding digital audience engagement

Chiara Zuanni

# Outline of the webinar



**From visitor studies  
to digital audience  
research**



**Evaluating in-gallery  
digital engagement**



**Online engagement:**

Quantitative methods

Qualitative methods



**Information about  
benchmarks and  
resources**

# Visitor Studies

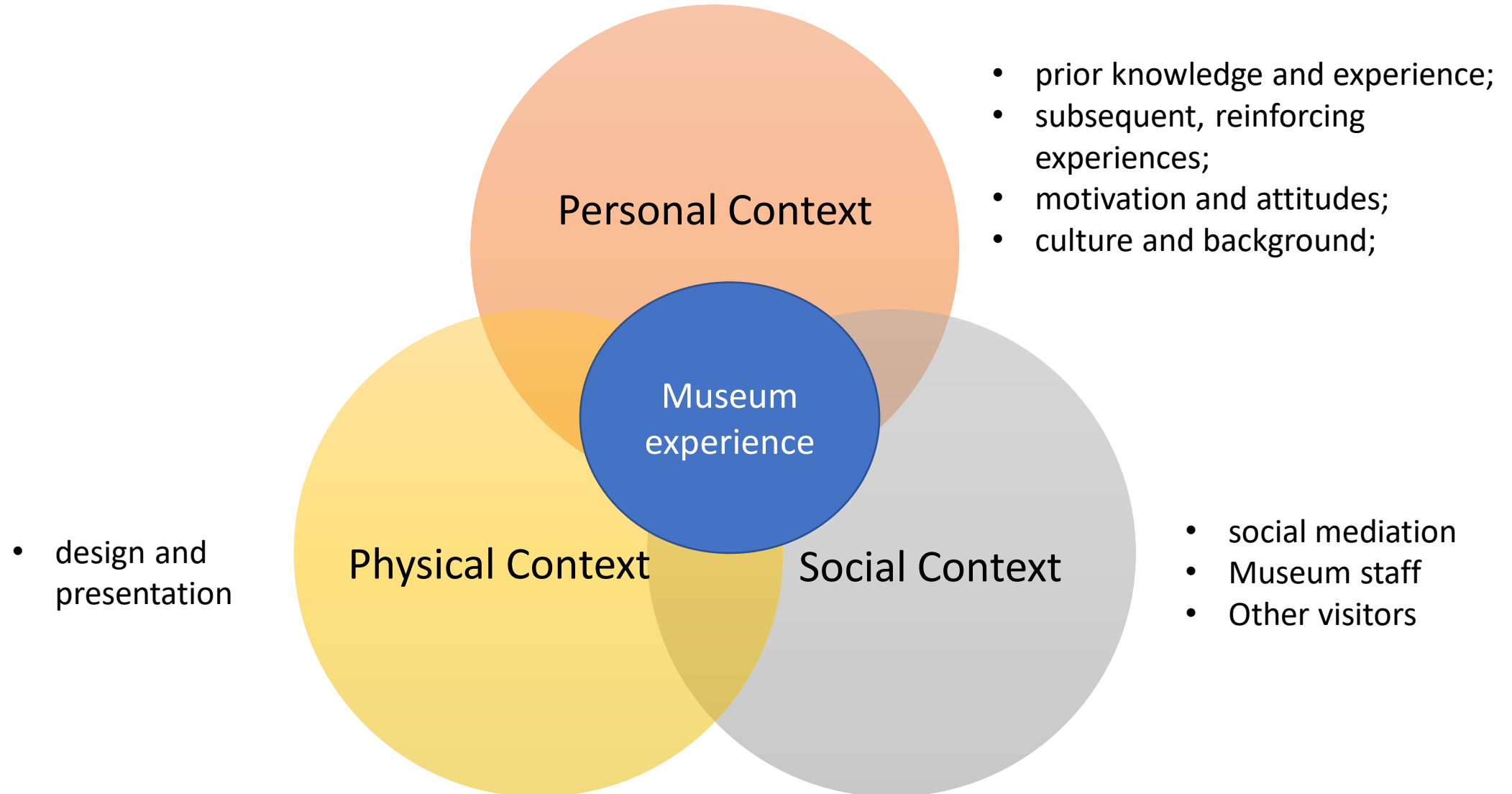
- Recording visitor numbers since the 19<sup>th</sup> century
- Few studies in the first half of the 20<sup>th</sup> century
- Surveys since the 1960s
- Bourdieu and Darbel, *L'amour de l'art*, published in France in 1969 (English translation 1991)
- 1990s: social scientists and learning theorists criticise the prevailing quantitative approach, arguing for more qualitative research in order to better understand visitors' construction of meanings in museums

# Understanding museum learning

‘Museums are no better at imparting information than other places’, but their strength is in giving ‘people an experience of the real thing such that a desire to know more ensues. Museums can be phenomenally successful in terms of **increasing motivation to learn, in enabling people to discover and develop new passions**, in making a previously mundane set of facts suddenly come alive and become meaningful’

(Hooper-Greenhill, 1999, p.1)

# Falk and Dierking: The contextual model



# Museum experiences over time

Figure 1.1 The Contextual Model of Learning

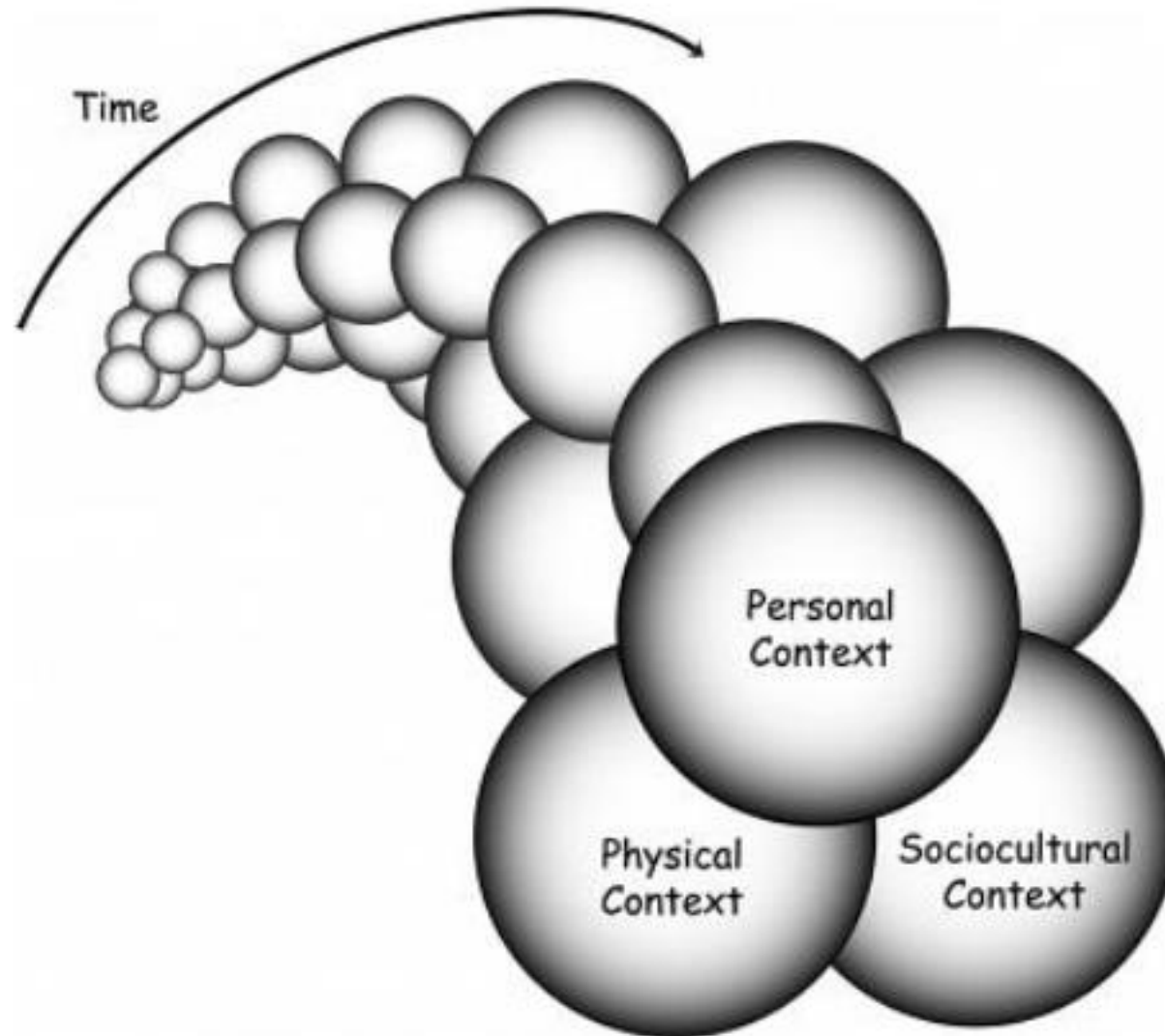


Image from Falk and  
Dierking

# *Identity and the museum visitor experience* (Falk 2009)

‘the long-term meanings created by visitors from their time in the museum are largely shaped by short-term personal, identity-related needs and interests rather than by the goals and intentions of the museum's staff’

(Falk, 2009, p.35)

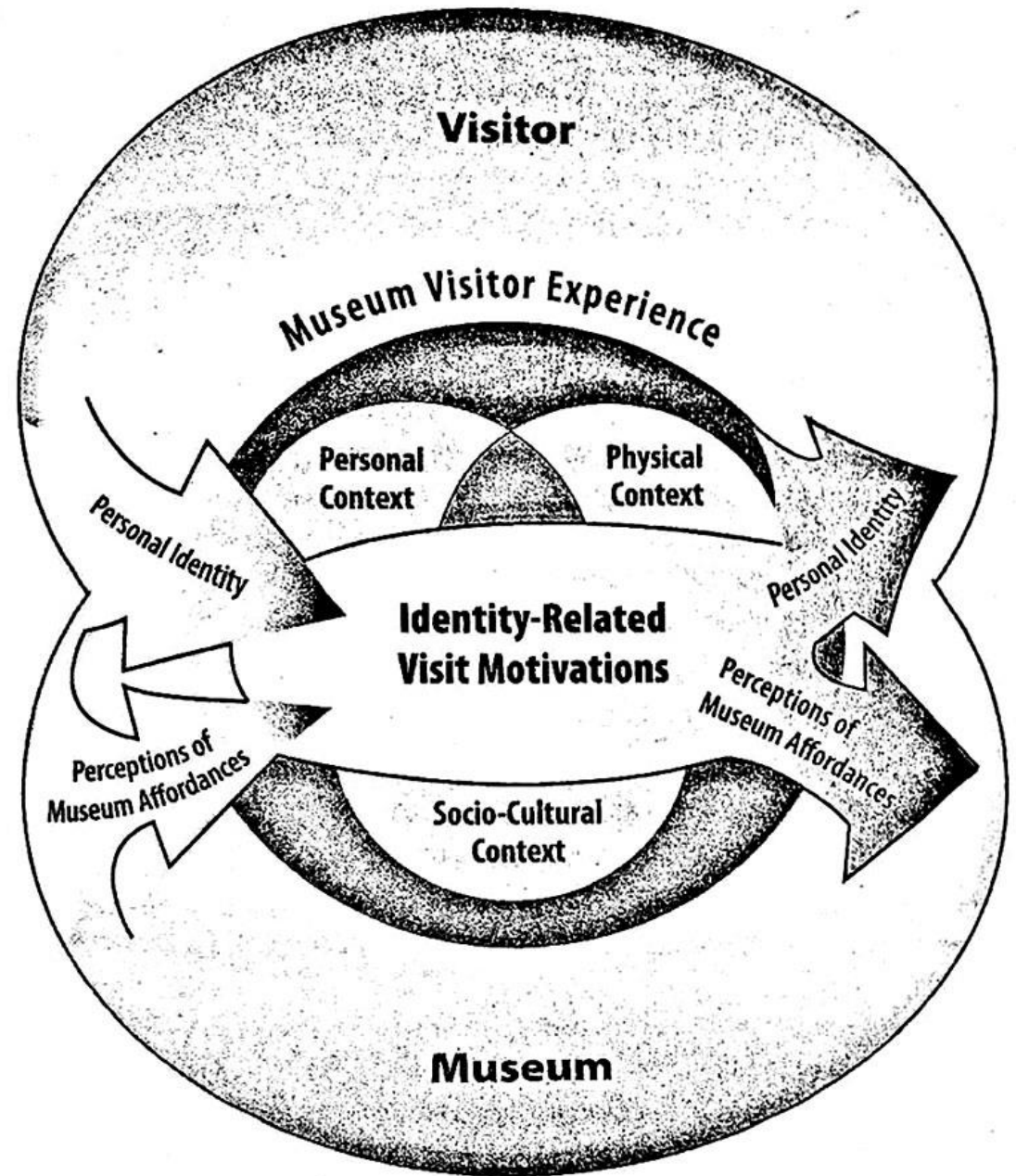


Figure 26.1. The museum visitor experience and the role of identity-related visit motivations. Excerpt from *Identity and the Museum Visitor Experience* (2009), p. 161. It is reprinted here with permission from Left Coast Press. All rights reserved.



# Visitor studies methods

- Questionnaires
  - Unobtrusive/Participant observations
  - Interviews
  - Focus groups
  - Eye-Tracking
  - Maps
- 
- Which can be done before, during, after the visit.

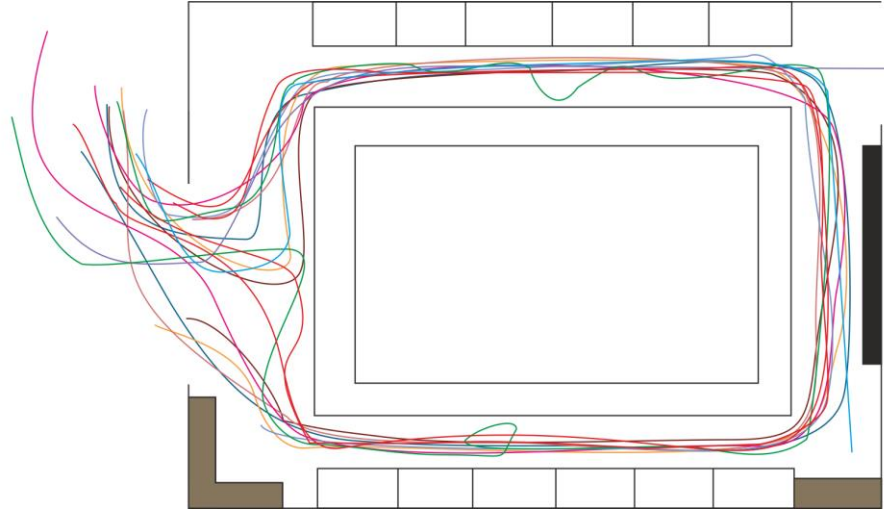
# Example from my research

My PhD (Manchester, 2015):

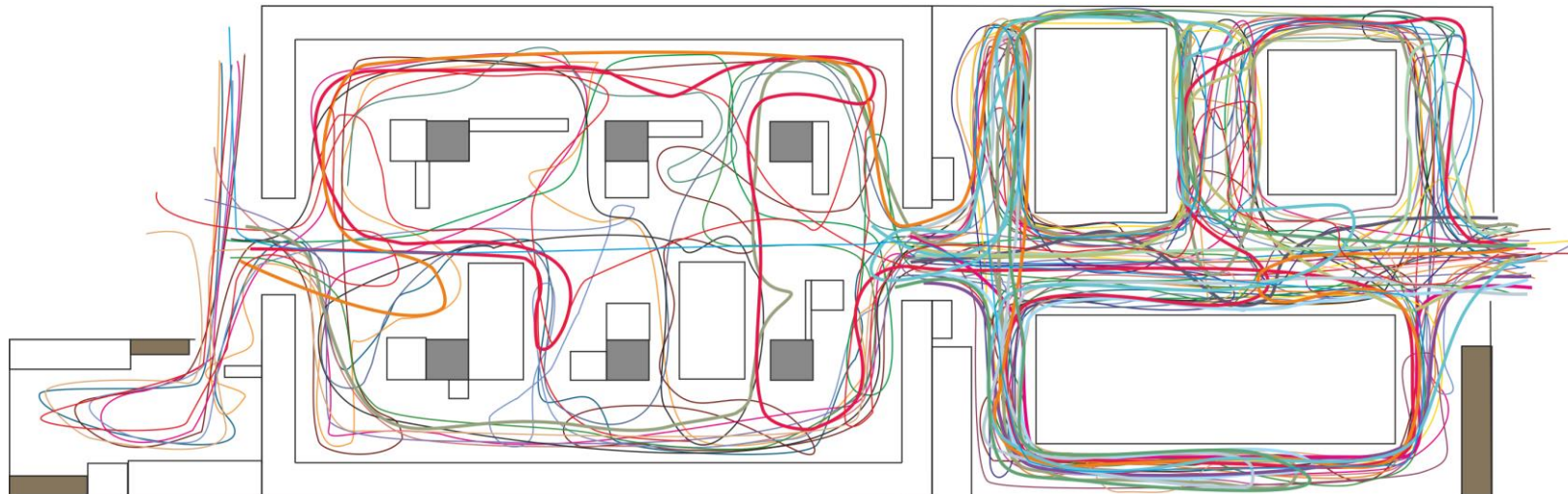
- **What is the impact of public perceptions of archaeology on museums?**
- How do museum narratives and other media narratives interact in shaping the public understanding of the past?
- How are museum professionals' and visitors' practices and experiences influenced by diverse narratives of archaeology?



# Unobtrusive Observations



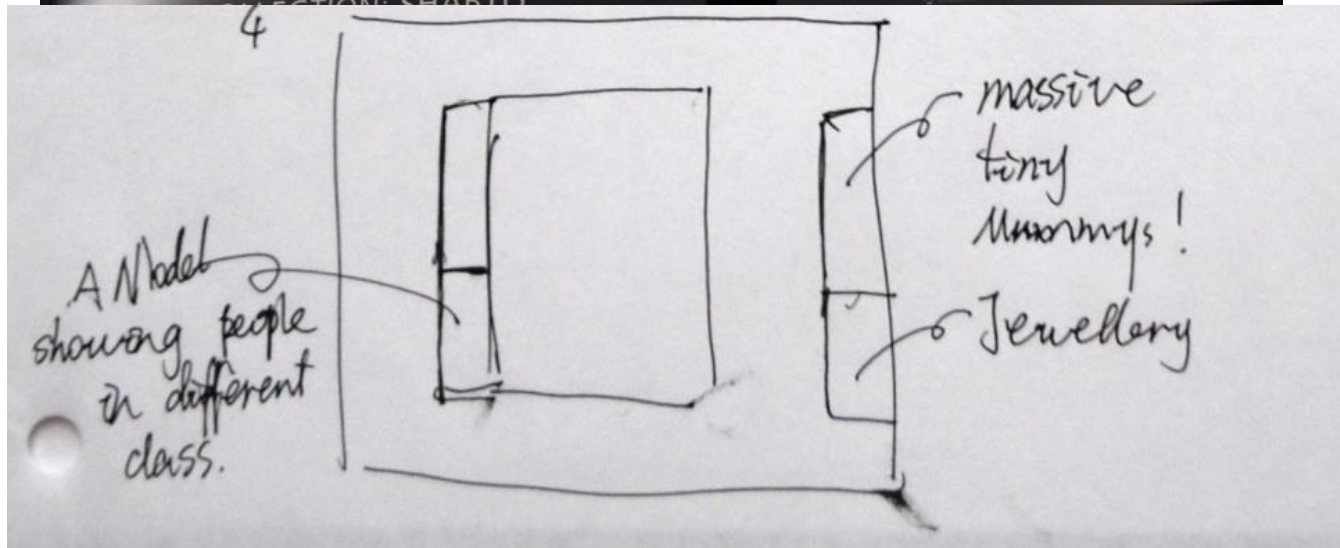
- Sitting in a corner and not interacting with visitors
- Tracing itineraries
- Noticing comments and ways of navigating the space
- Progressive sampling of areas of interest







Participant Observation: visiting together, and paying attention to what the visitor does, what he looks at, his/her comments, etc.



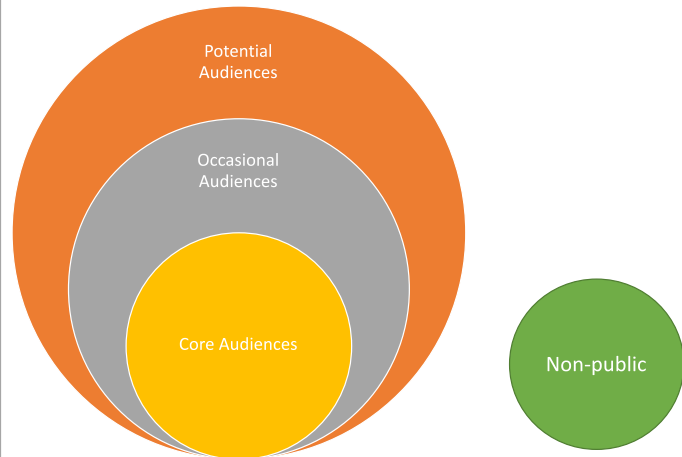
*'[these are] traditional motif, they are still worn in India and Pakistan'*

**IDENTITIES IN A MULTICULTURAL SOCIETY**

# Audience research: segmentation frameworks

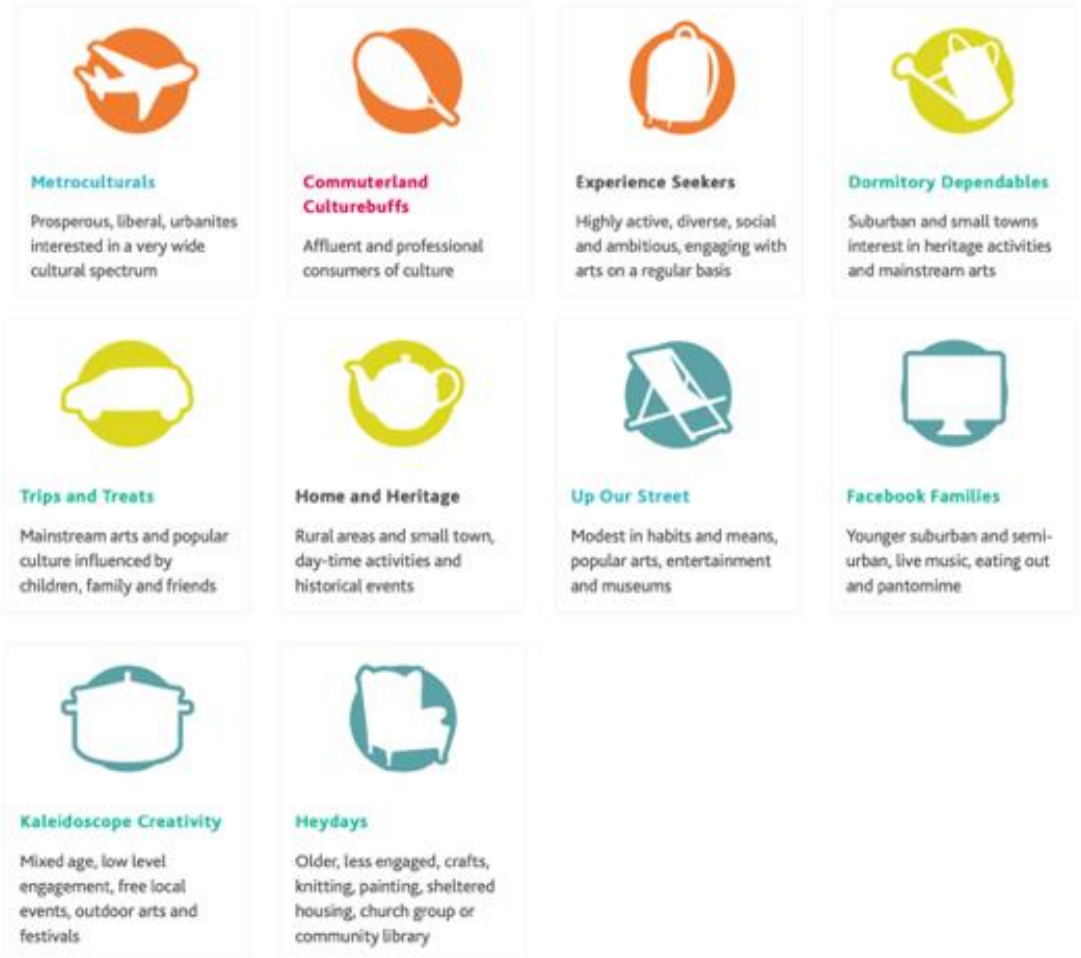
- A method used to evaluate visitors, mostly linked to funding and policy/impact evaluation
  - E.g. DCMS *Performance Indicator Guidance* for museums and galleries (DCMS, 2014):  
'access' (i.e. number of visits to the museum and to its website); 'audience profile' (i.e. number of visits by under 16 and by overseas residents); 'learning and outreach' (number of visits by school groups and under 18 participating in a museum activity); 'visitor satisfaction' (percentage of visitors who would recommend the visit, evaluated on a Likert scale); 'income generation' (from admissions, trading, and fundraising); 'regional engagement' (evaluated according to the number of loans).
- Audience segmentation is the process of dividing people into groups, depending on set characteristics.
- In the case of museums, frameworks look at:
  - Demographics
  - Motivation to visit
  - Cultural habits

## A framework for Italian audiences

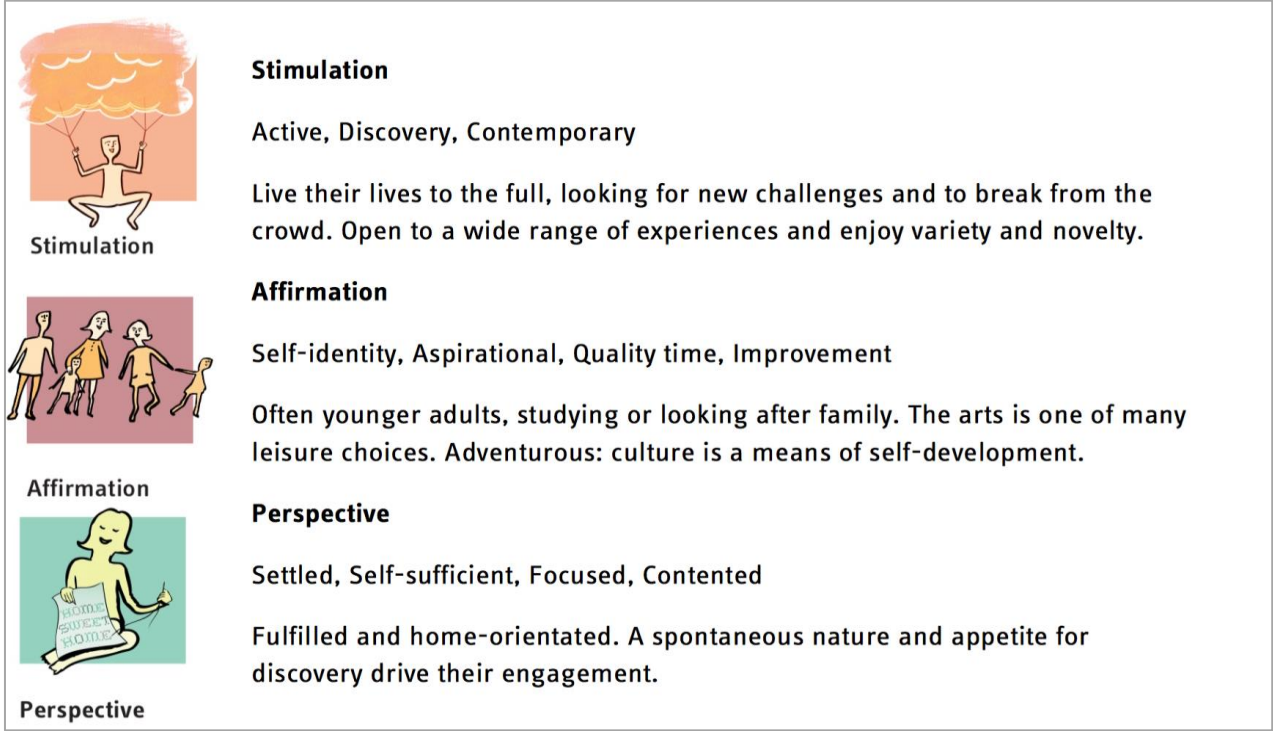


Alessandro Bollo, 2016

## Audience Agency: The audience spectrum profile



# Another example: *Culture Segments*, by Morris Hargreaves McIntyre





# Understanding museum visitors

- Aims of visitor study for a museum:
  - Marketing?
  - Evaluation for funders?
  - Evaluation of learning outcomes?
  - Evaluation of well-being impact?
  - How does a specific programme/exhibit compare to others?
  - Evaluation of digital VS analogue?
  - ...

## Social and cultural values of museums

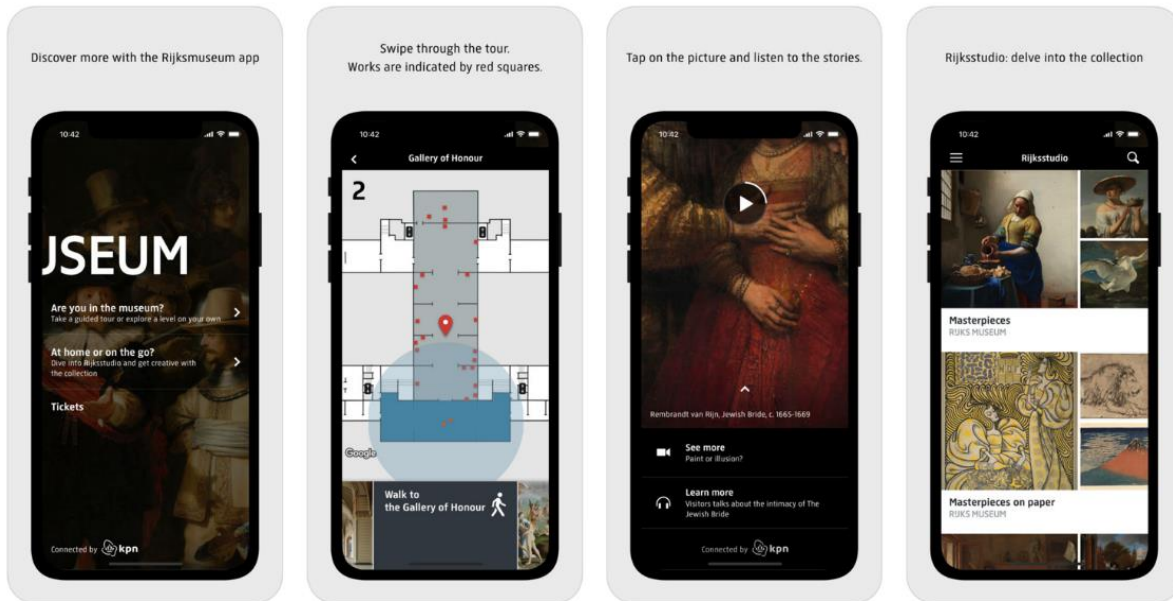
Engaging	Wellbeing	Connecting
Processes	Positive feelings	with the experience of another
evaluating	enjoyment	with the past
questioning	pleasure	with other cultures
reflecting	stimulation	with place
comparing	calm	the personal to the universal
focusing	alive	the local community
discovering	inspired	with difference
Effects	uplifted	with national identity
challenged	healed	with changing values
confronted	energised	
Enlightened	Enhanced sense of self	
Shocked	dignity	
Changed	pride	
	affirmation	
	confidence	
	competence	

Table 3: Taxonomy of user experience in museums and galleries



What about digital engagement?

# Museum applications



*Rijksmuseum: children in 2014; a version of the app (2018v)*

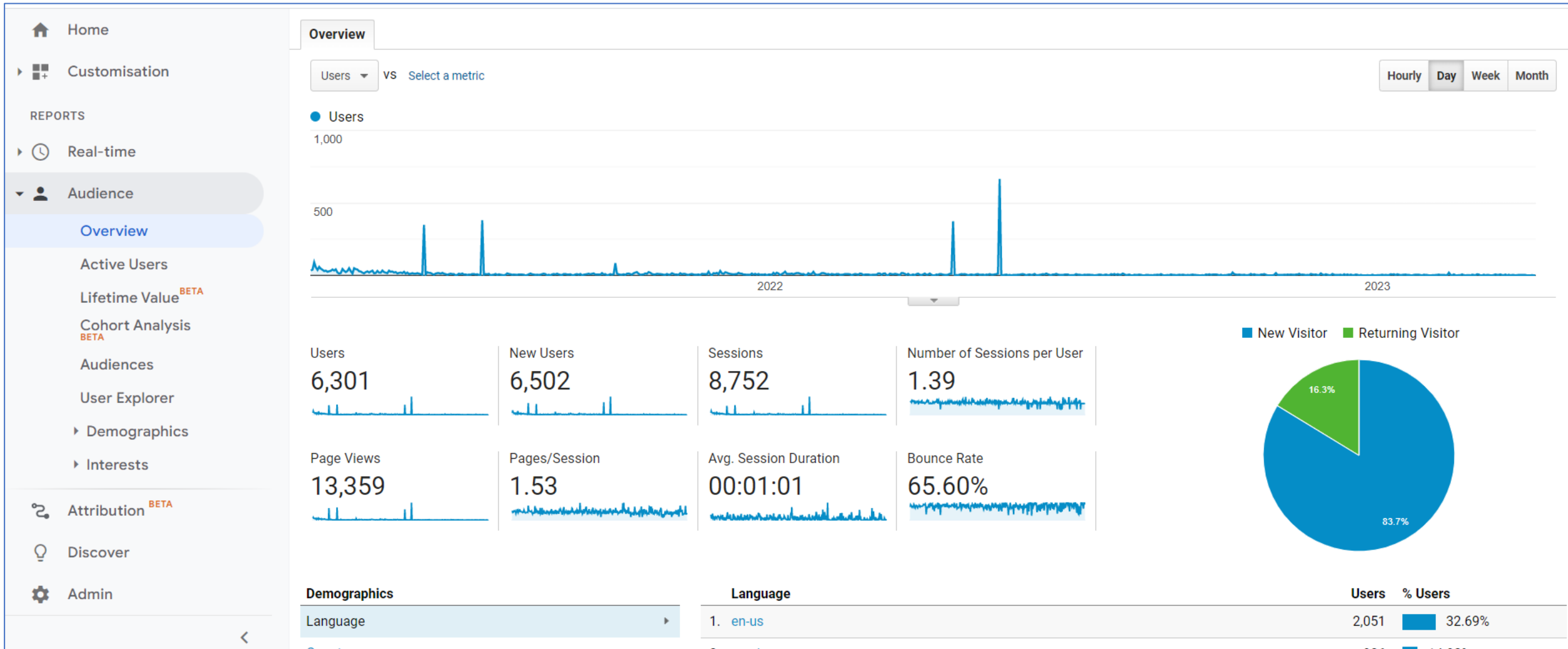


# Evaluating on site engagement

- User experience
  - Is it easy and pleasant to use?
  - Is it well integrated with the museum visit?
- Analytics
  - How many downloads of the app? (or access via mobile web)
  - Usage of the app: how many users? for how long? how many sections did they see? how many used it repeatedly?
- Visitor study (e.g. questionnaires; prompting comments; observing them in the galleries; user testing)
- Press and media
- Social media reactions

What about online audiences?

# Analytics



# Analytics in museums

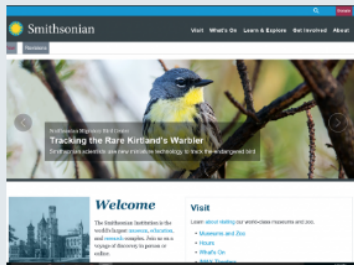
## Website Visitors

154M

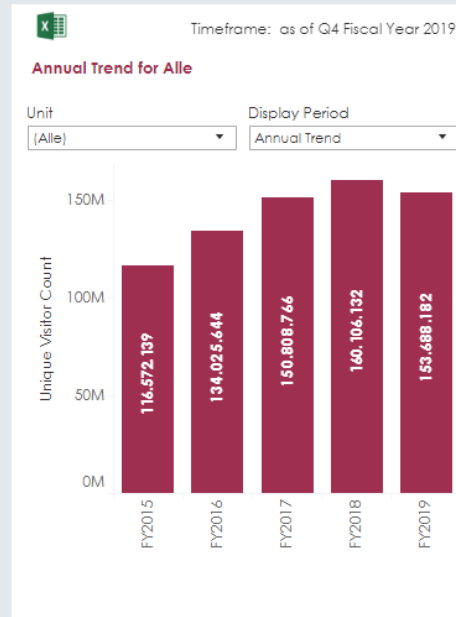
Website Visitors  
Fiscal Year 2019

80.4

Website Satisfaction Score (Average)  
as of September 2019



The number of visitors to the Smithsonian's public websites is an indicator of our online presence and access to our digital resources. The number represents data for over 200 websites. The Website Visitor Satisfaction Score derives from a random survey of website visitors across Smithsonian sites that represent more than 90 percent of its web traffic, and is benchmarked against an index for other nonprofit and education websites.



Top 25 Websites By Visitor Count »

Website Visitors Satisfaction »

The Smithsonian's Dashboard

(<https://www.si.edu/dashboard>) shows data about:

- Research
- National Collections
- Public engagement

Here you find website visitors and social media engagement:


<https://www.si.edu/dashboard/public-engagement#website-visitors>

- People & Operation (staff)

Excellent presentation (by Elena Villaespesa and Brian Alpert): [https://www.slideshare.net/elena\\_culture/analytics-tune-up-insights-and-methods-to-achieve-a-manageable-approach-to-google-analytics](https://www.slideshare.net/elena_culture/analytics-tune-up-insights-and-methods-to-achieve-a-manageable-approach-to-google-analytics)

# Twitter analytics

Overview  
for each  
month

**Analytics**


HomeTweetsMore

Chiara ZuanniSign up for Twitter Ads

TWEET HIGHLIGHTS

**Top Tweet** earned 892 impressions



Happy tweet for the end of week 5 home alone: my orchid has bloomed again!  
[pic.twitter.com/36Q5yfLnSp](https://pic.twitter.com/36Q5yfLnSp)



112


View Tweet activityView all Tweet activity

**Top Follower** followed by 3,646 people




Europeana Research

**Top mention** earned 89 engagements

**ACDH-CH**  
@ACDH\_OeAW · Apr 29

Quite the panel at this final  
**#IGNITEroundtable** on **#dayofDH2020**:  
**@st3phart**, V Hannessschläger,  
**@vladimir\_nis**, **@Papadopoulos\_C**,  
**@huangmp**, **@DorflerFranz**, **@kia\_z**, P  
Knobloch, **@syednimrah**, T Wissik,  
**@estheraminata**, S Inoue, **@schreib100**, A  
Woldrich, and M B Andersen. Big thanks to  
all! [pic.twitter.com/574P7vTNK](https://pic.twitter.com/574P7vTNK)



819

View Tweet

APR 2020 SUMMARY

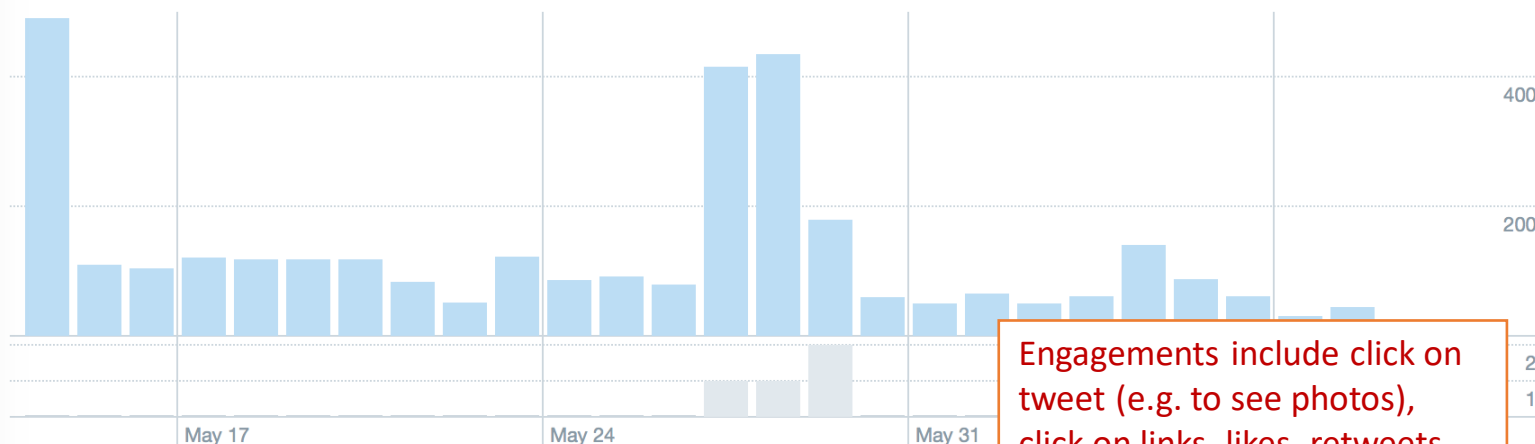
Tweets	12	Tweet impressions	8,400
Profile visits	212	Mentions	14
New followers	12		



# Tweet activity

Last 28 Days Export data

Your Tweets earned **3.8K impressions** over this **28 day** period



**YOUR TWEETS**  
During this 28 day period, you earned **121 impressions** per day.

Tweets Top Tweets Tweets and replies Promoted



**Chiara Zuanni** @kia\_z · May 28  
very happy to have managed to catch some of the presentations from [#ZukunftderObjekte](#) in-between my other online meetings today! lot of interesting discussions! [twitter.com/ZukunftObjekte...](#)

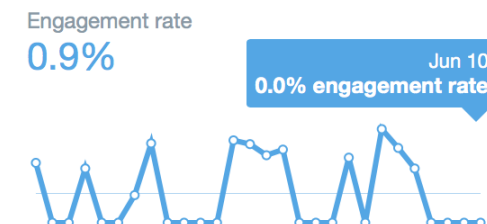
View Tweet activity

Impressions	Engagements	Engagement rate
421	9	2.1%

Impression is the number of time a post has reached someone timeline. It doesn't mean they actually looked at it (= they had it on their timeline, who knows if they actually saw it)

Engagements include click on tweet (e.g. to see photos), click on links, likes, retweets

**Engagements**  
Showing 28 days with daily frequency





1 Bitlink

Clicks all time

JUN 10, 2018  
☐ <https://online.uni-...>  
[bit.ly/uni-profile](https://online.uni-...)

419

# Using bitly links

[bit.ly/uni-profile](https://bit.ly/uni-profile)

COPY

SHARE

EDIT

419  
TOTAL CLICKS

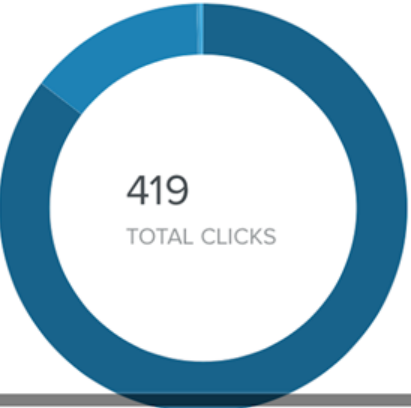


## REFERRERS

## LOCATIONS

Email, SMS, Direct 358  
Twitter 59  
sharedocs.huma-n... 1  
+1 more 1

United States 276  
Austria 43  
Italy 40  
+19 more 60



# Audience research and digital visitors

“Understanding how to gather, analyse and interpret audience data is therefore becoming essential to developing effective audience engagement strategies”  
(NESTA & ACE 2019: 9)


Engaging	Wellbeing	Connecting
Processes	Positive feelings	with the experience of another
evaluating	enjoyment	with the past
questioning	pleasure	with other cultures
reflecting	stimulation	with place
comparing	calm	the personal to the universal
focusing	alive	the local community
discovering	inspired	with difference
Effects	uplifted	with national identity
challenged	healed	with changing values
confronted	energised	
Enlightened	Enhanced sense of self	
Shocked	dignity	
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	affirmation	
	confidence	
	competence	

Table 3: Taxonomy of user experience in museums and galleries

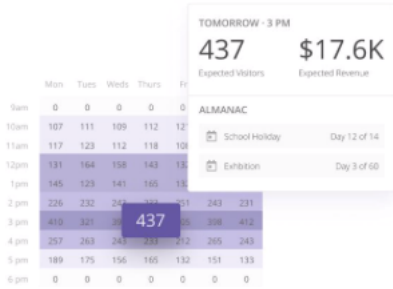
# Data-intensive audience research

→ *Culture Metrics* project research: data cultures and the need of just 'data' rather than 'big data' (Arvanitis, Gilmore, Florack, Zuanni 2016)

→ Data-driven research (e.g. mining TripAdvisor and analyzing data with NLP), big data benchmarks and AI, experimental dashboards

Home Product Pricing Resources COVID-19 About [Join Free](#)

Power your visitor attraction's future using data. Here's why the world's best venues use Dexitbit:



TOMORROW - 3 PM  
437 Expected Visitors \$17.6K Expected Revenue

ALMANAC  
School Holiday Day 12 of 14  
Exhibition Day 3 of 60

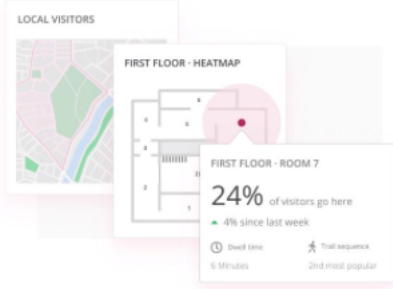
	Mon	Tues	Weds	Thurs	Fri
9am	0	0	0	0	0
10am	187	111	109	112	12
11am	117	123	112	118	108
12pm	131	164	158	143	15
1pm	145	129	141	165	15
2pm	226	232	245	255	243
3pm	409	321	355	355	402
4pm	257	263	243	272	265
5pm	189	175	156	165	132
6pm	0	0	0	0	0

Predict visitation, revenue and more, down to the hour and up to a year ahead

Escape the grind or guesswork in strategic and operational planning. Let artificial intelligence do the hard work while you plan for the future.

- Generate accurate, granular and intelligent forecasts, fast
- Fast forward scenario planning with simulations
- Maximize visitation and revenue for exhibitions

[Learn more about Forecasts >](#)



LOCAL VISITORS

FIRST FLOOR - HEATMAP

FIRST FLOOR - ROOM 7  
24% of visitors go here  
4% since last week

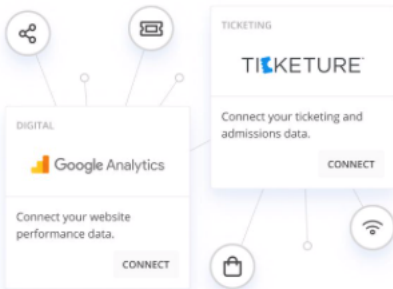
Dwell time: 6 Minutes  
First sequence: 2nd most popular

Actionable insights to optimize growth, experience and loyalty

Uncover data stories that inspire. Discover recommendations to respond to factors impacting your visitors' decisions, then action and track return on investment.

- Go deep on visitor behavior with AI technology
- Realize the magic of correlation
- Harness the power of data science

[Learn more about Insights >](#)



TICKETING  
TICKETURE

Connect your ticketing and admissions data.

DIGITAL  
Google Analytics

Connect your website performance data.

CONNECT

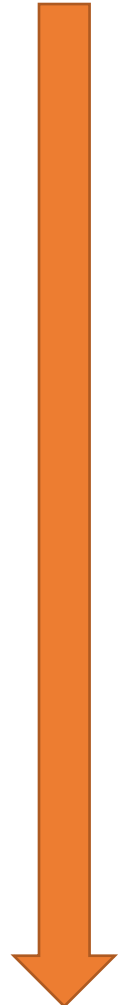
Personalized views of your data, at your fingertips and in the moment

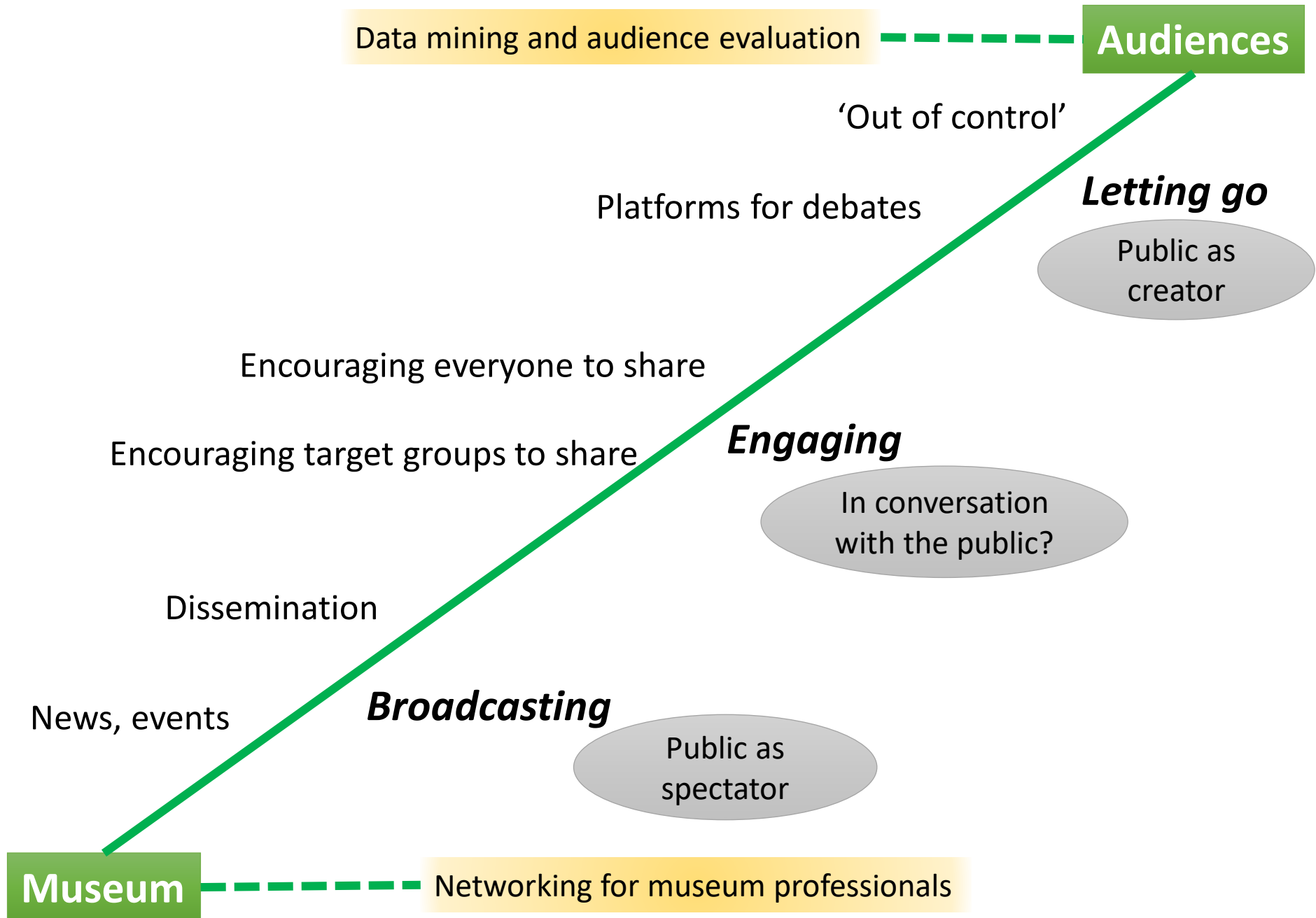
Dashboards free your team from time consuming spreadsheets and confusing tools so they can do more with less.

- Bring your data together under one roof
- Build personalized dashboards
- Benchmark performance and recovery

[Learn more about Dashboards >](#)

# Social Media Strategies

- 
- What is my identity?
    - Which is the best media to promote my identity?
  - Who is my audience?
    - On which platform do I find it? Which habits does it have?
  - Choice of platform
  - Content planning
    - What am I talking about?
    - How often?
    - Which type of style do I use?
  - How do I answer/react to users' comments
  - Crisis management plan
  - Interacting with the public, evaluating, improving the strategy






# Studying social media audiences

- Digital ethnographies, as a way to observe the experience of online users – through observations, online interviews, and other qualitative methods
- Data science as a way to gather big data about our audiences and analyse patterns or specific phenomena



# The case of the spinning statuette







 Luke Lovelock · 1 video

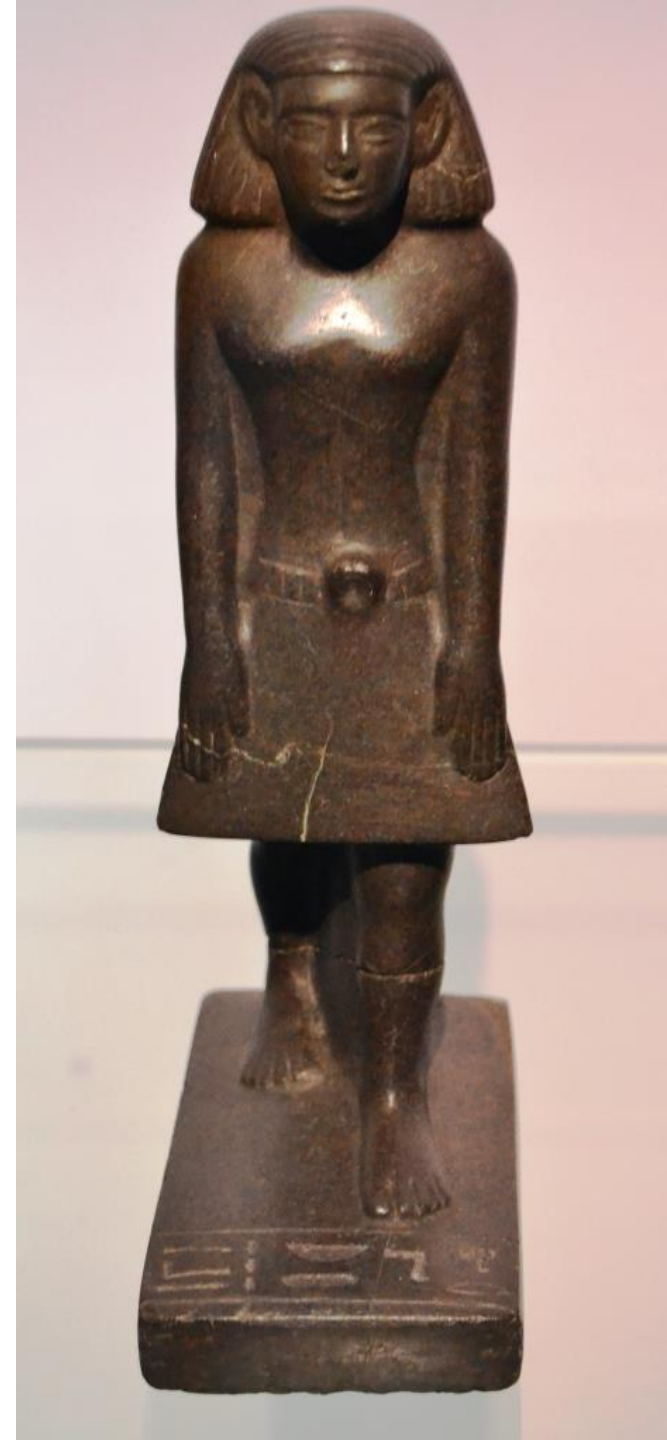
4,521,550

 4,203  405

 Like 

[About](#) [Share](#) [Add to](#)  

Published on 20 Jun 2013  
Time Lapse footage of Manchester Museums Spinning Statuette,  
taken over a week long period.

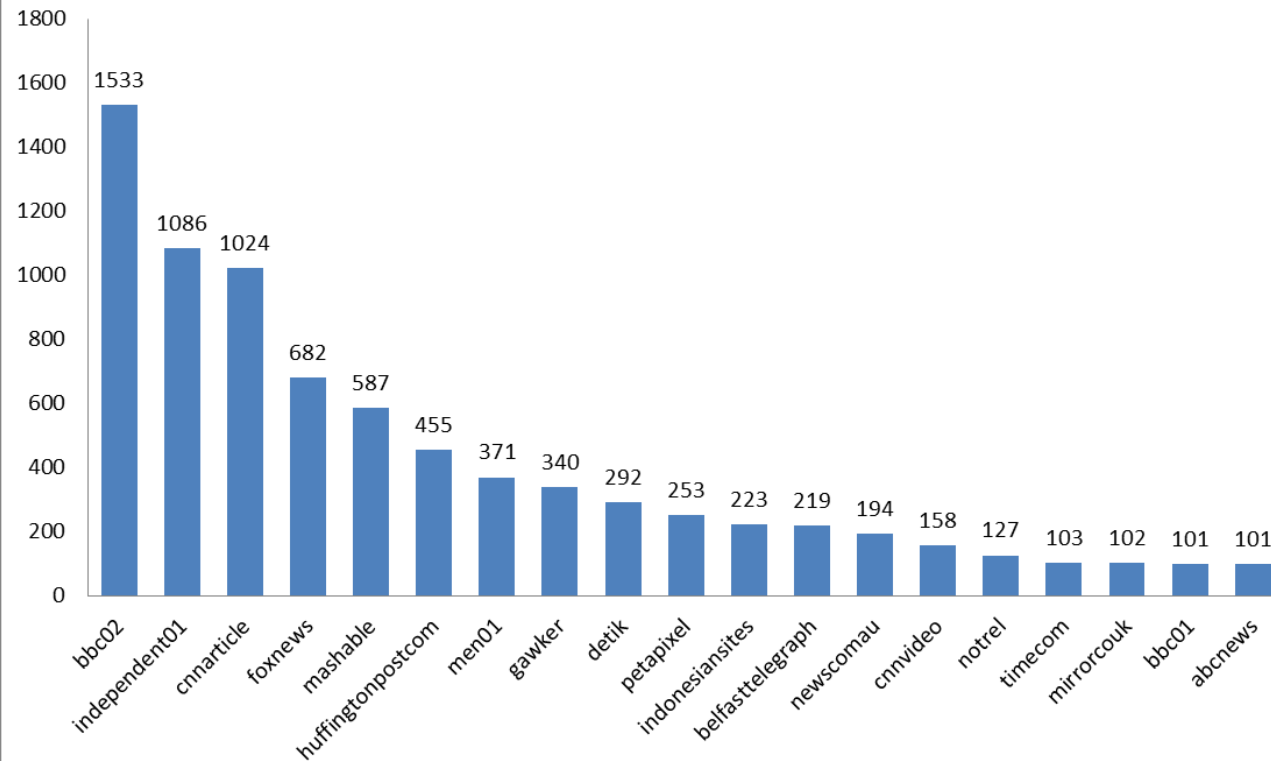




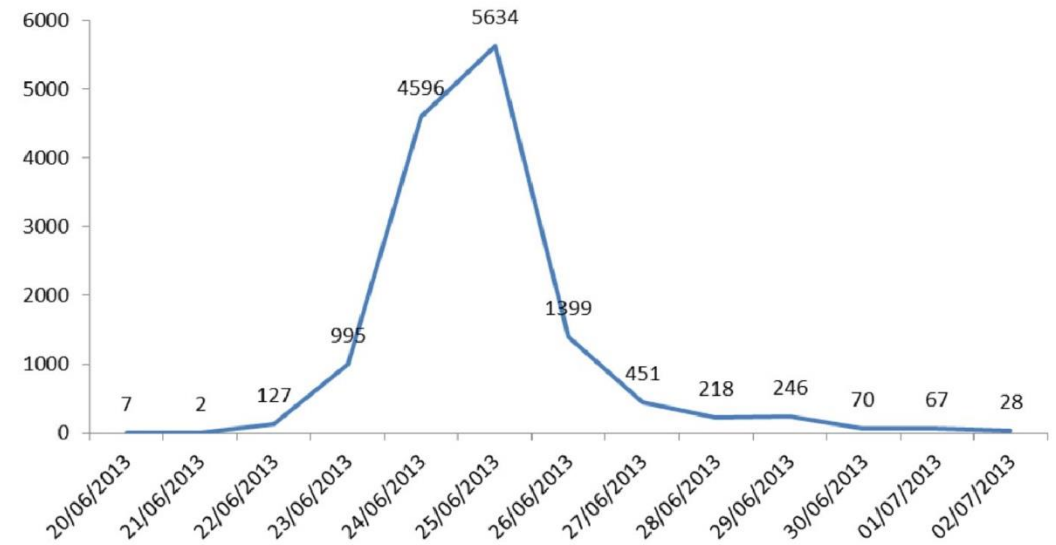
## Data collected:

- 15000+ tweets
- 600+ newspapers articles, youtube and blogs
- 2800+ comments below articles

Most tweeted links (tweets >100)



Tweets 20th June - 2nd July





# The Daily Mail example: different platforms, different users

**The turn of the mummy: God of death statue starts SPINNING on its own in Manchester museum... but is this a sign that there really is a curse of the Pharaohs?**

- 10-inch tall relic is an offering to Egyptian God Osiris, God of the dead
- It has been filmed on a time lapse, seemingly spinning 180 degrees
- TV physicist Brian Cox among the experts being consulted on mystery
- But some now believe there could be 'spiritual explanation' for turning statue

## Tweeting the Daily Mail

86 geolocated tweets out of 91 tweets



## Commenting on the Daily Mail

1227 geolocated comments out of 1273



# Content analysis

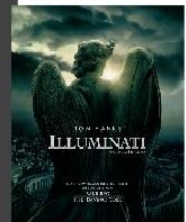
A thematic analysis:

- Identification of key themes
- Development of a coding book (list of themes and their descriptions)
- Tagging of content according to themes
- E.g. 'Popular culture', i.e. posts in which the users drew on pop culture content to engage with the event



## References to popular culture

- A case for Mr Holmes?
- a Case for Tintin? / The Seven Crystal Balls in Manchester
- A Night in The Museum 3 - Where's Ben Stiller
- Don't blink & call The Doctor! / Dr. Who where are u?? / Real life Weeping Angel found in Manchester Museum!
- Horcrux in Manchester Museum!
- I hear Indiana Jones music / Indiana Jones, solve the mystery!
- Illuminati!
- Mummy Re'Turns' / Opening scene of "The Mummy 5" / IMHOTEP!!!
- Ok, slightly odd. A case for the X files?
- If you look closely, you can see the Mystery Machine parked outside!

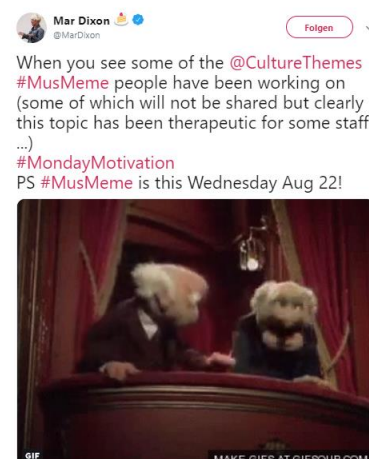




# Some social media research questions

- How do we engage audiences via social media?
- Are social media data valid for an objective audience evaluation?
- Can web and social media data help us to understand our visitors and their experiences in the museum?
- How are expertise and participation understood and performed on social media?

#MuseumWeek



# Who is participating? The case of MuseumWeek2016

Twitter space

All #MuseumWeek #SecretsMW #PeopleMW #ArchitectureMW #HeritageMW #FutureMW #ZoomMW #LoveMW

**LA STAMPA** TECNOLOGIA

SEGUICI SU    ACCEDI

compra il servizio di  
magazine on demand

apre con la voce di Chiara

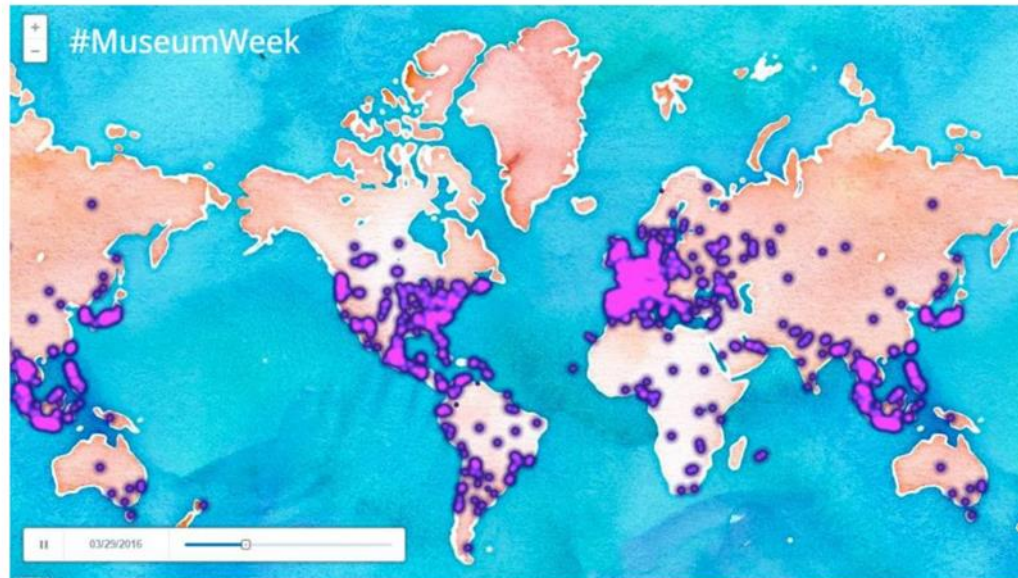
la battaglia contro i  
contenuti i rapinati

Centre: la qualità del  
software secondo Dark

apprende dagli inganni  
della percezione umana

## L'Italia spicca nella #MuseumWeek2016

Cinque musei occupano le prime posizioni nella classifica dei più menzionati su Twitter



I tweet generati nel mondo dalla #MuseumWeek

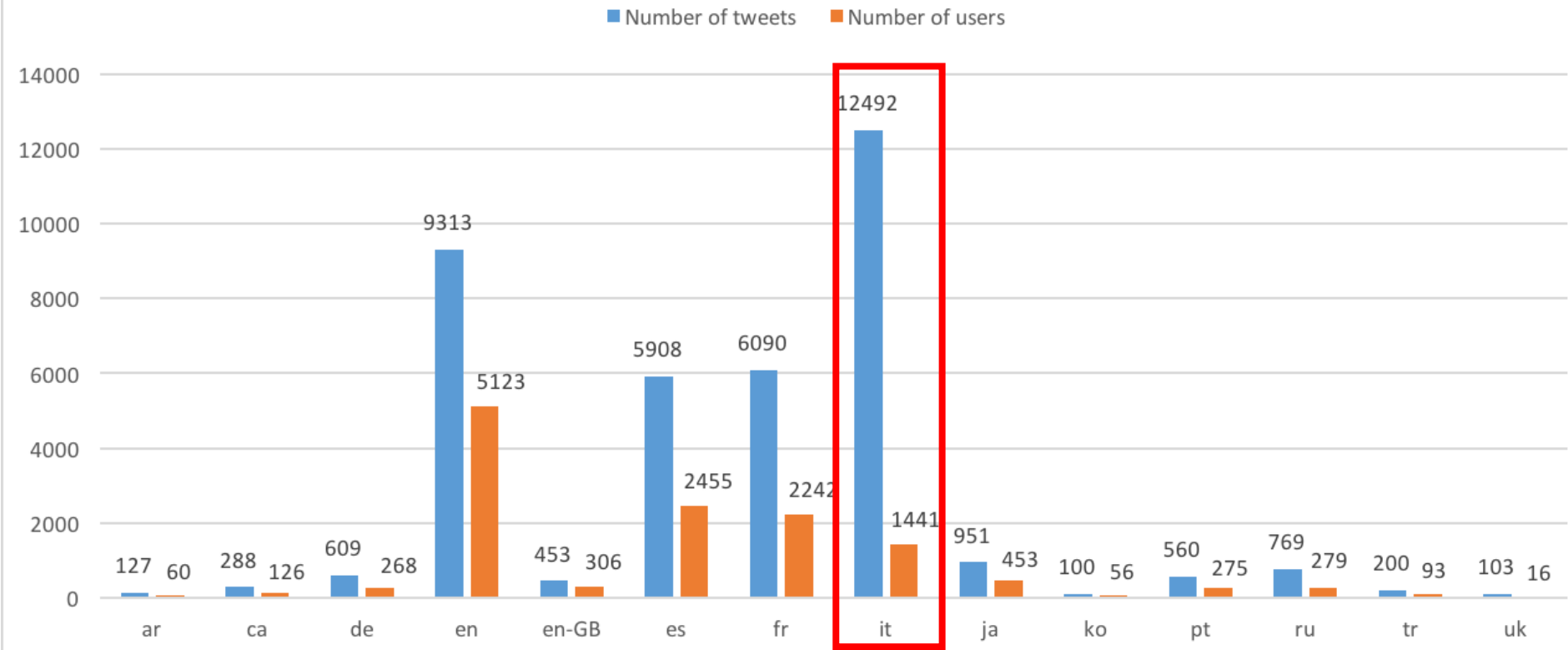
LEGGI ANCHE



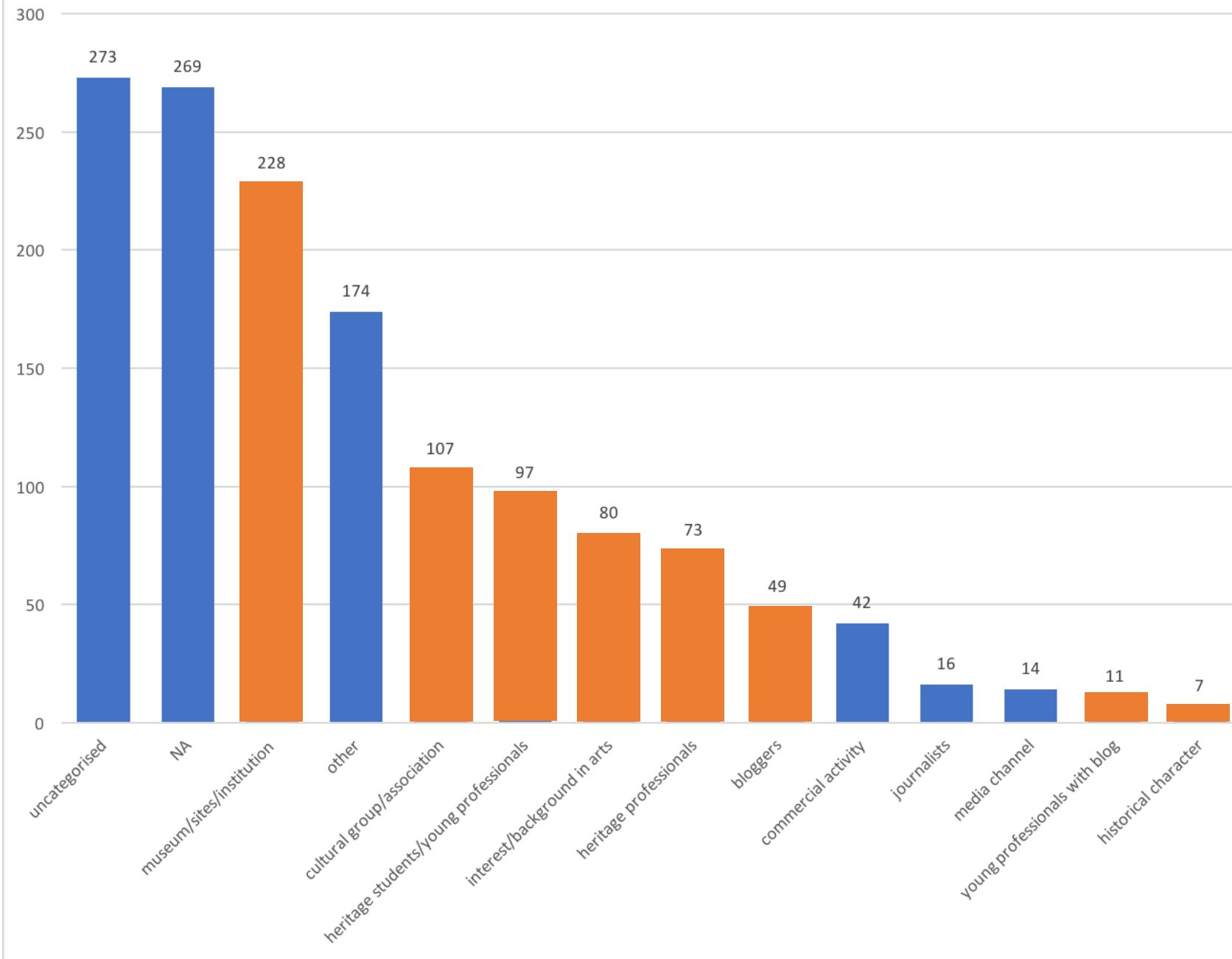
Twitter: 10 anni di cinguettii  
che fanno storia



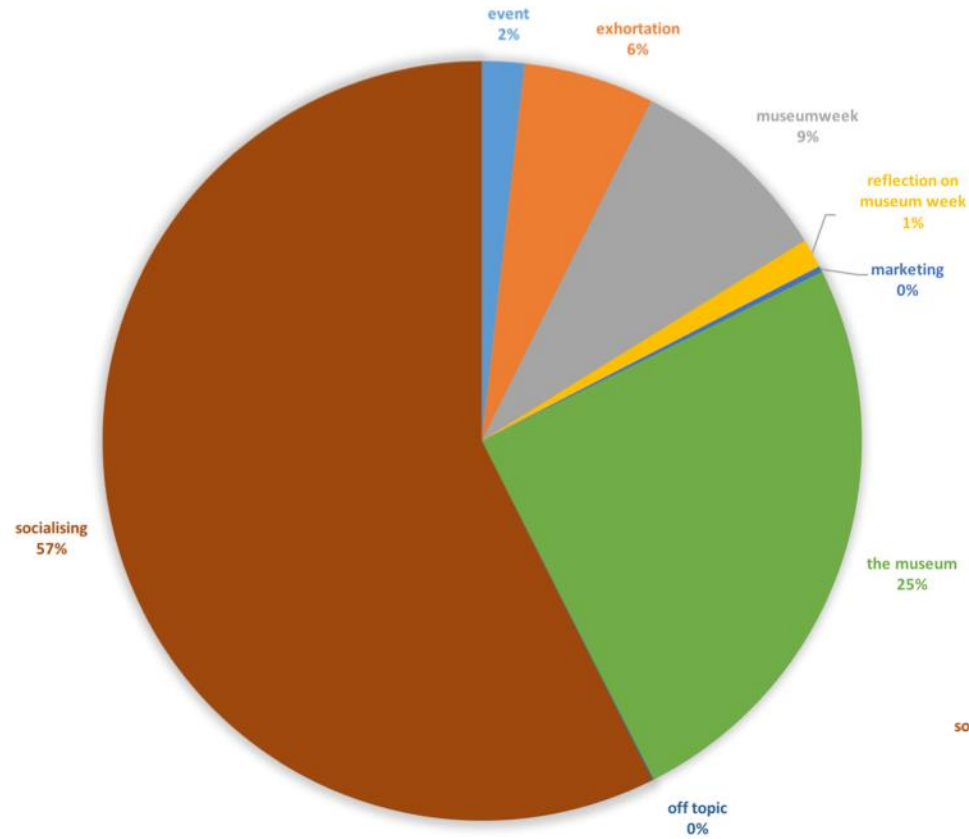
Tweets and users per language (when > 100 tweets)



Count of users per categories

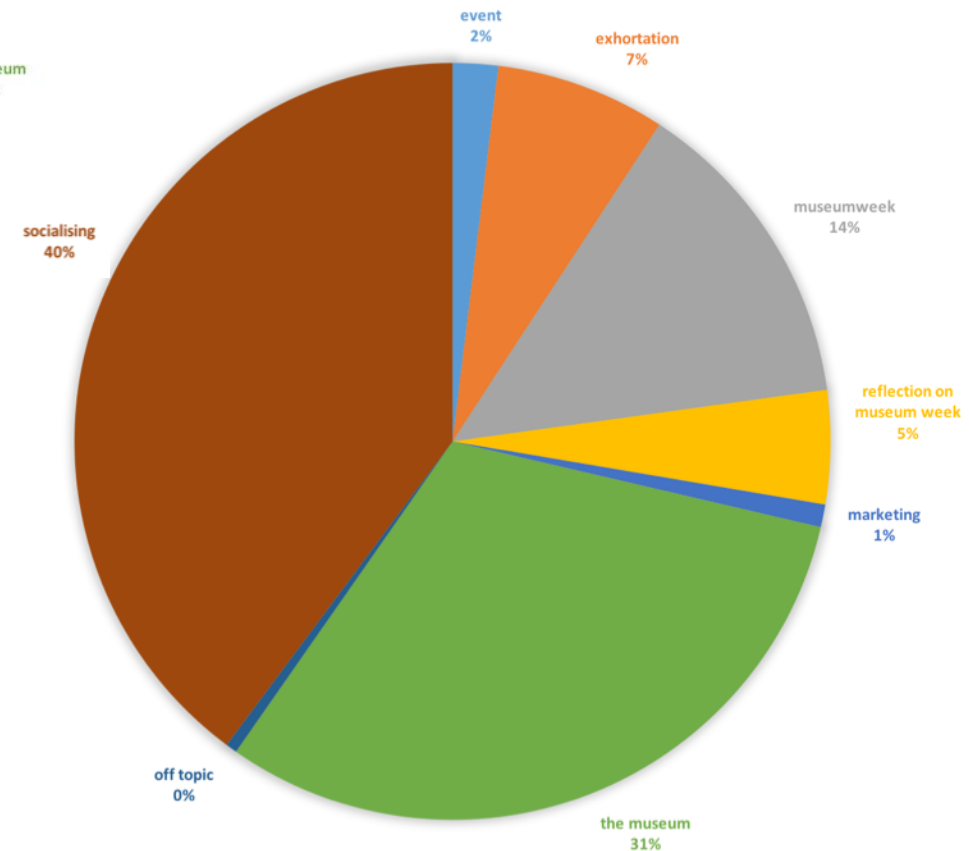


HERITAGE-SECTOR TWEETS: CONTENT ANALYSIS



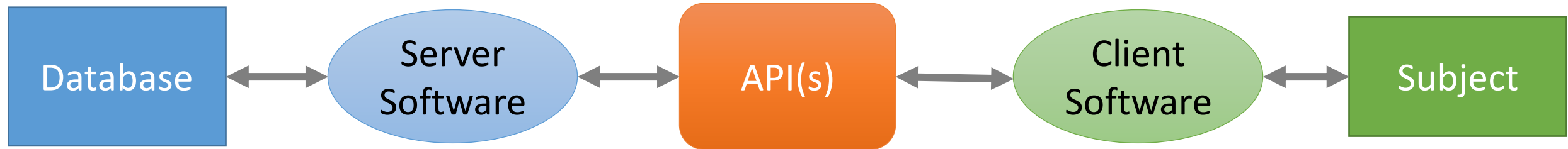
- Socialising
- Event (on the day)
- Exhortation (to visit)
- Museumweek
- Reflection on museumweek
- Marketing
- 'the museum'
- Off topic

NOT HERITAGE SECTOR TWEETS: CONTENT ANALYSIS



From Zuanni, C. 2017. Italian Museums and Twitter: an analysis of Museum Week 2016. *Archeostorie. Journal of Public Archaeology*. 1. Available at: [www.archeostoriejpa.eu/2017\\_4c](http://www.archeostoriejpa.eu/2017_4c)

# How are social media data constructed?

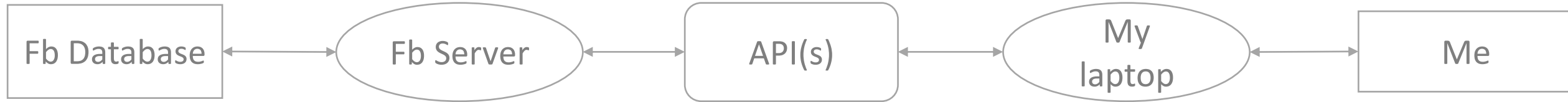




# Social Media APIs

- The API is the access point to the database
- There is not only one API, there are a series of APIs, each one allowing access to a different dataset/action on the platform
- Have two main 'modes' of operating:
  - GET
  - POST
- The data are mostly in JSON format (JavaScript Object Notation)

# GET



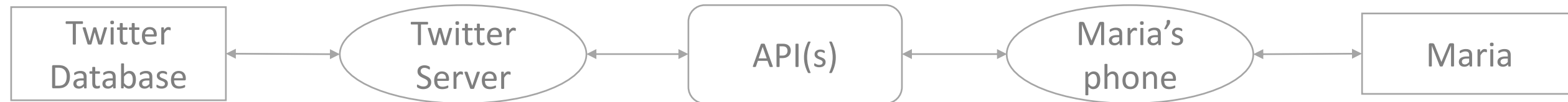
Fb retrieves the data from its database, where data are organised according to Fb's choice of 'categories' and 'structures'.

Fb browser requests my feeds to the Fb server (with its proprietary software).

My Fb browser application make e.g. posts 'readable' on the screen.

I look at feeds on my laptop.

# POST



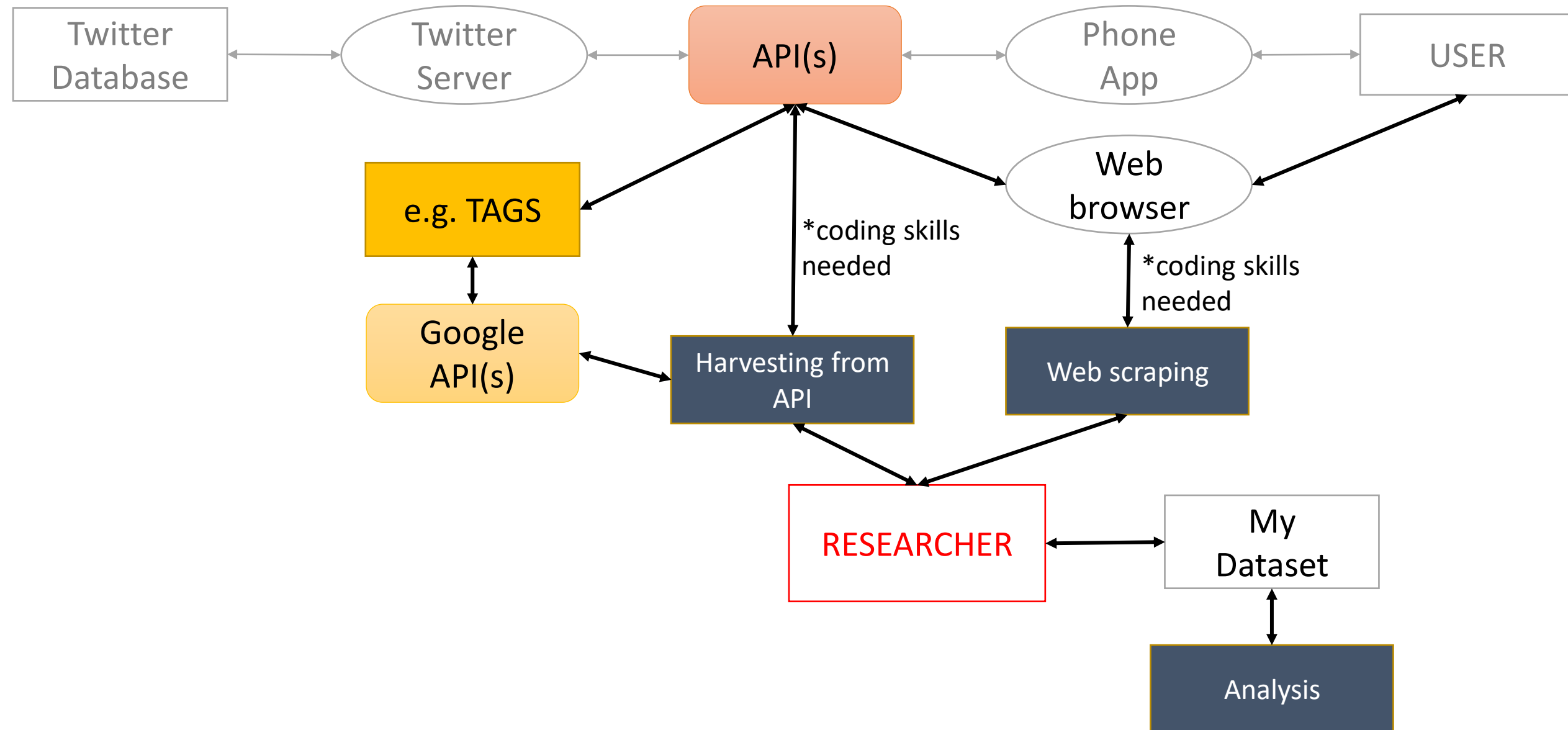
Twitter stores this data in its own structures and formats.

The API 'decides' which data are being sent to Twitter.

The Twitter app 'represents' this data to the Twitter API.

She types a post on her phone.

# In Research: Data Collection from e.g. Twitter



# Social Media Mining

- Twitter:
  - API was 'easy' to mine (for up to 1500 tweets OR tweets from the last 7 days), but recent changes have restricted access;
  - Until recently there were existing tools (some still working, but long-term is not guaranteed); alternatively R or Python packages
- Facebook:
  - Posts on public pages and public groups with data science methods (e.g. R)
  - Personal pages and private groups no (ethical)
- Instagram:
  - Terms of Use in 2017 explicitly protecting users' privacy, hence it is impossible to get an API key for data mining purposes
  - Since Dec. 2018 the endpoint is the Facebook Graph API, so collection is more difficult via API
- Alternatives are web scraping methods
- Terms & conditions of the platforms; national legislation; GDPR; and ethics need to be respected

# Representativeness of data sample in social media

1. Demographic bias: a platform users do not represent a population
2. Completeness: the data we get will **never** be complete and we do not know what % of the full dataset they are
3. Unclear provenance: we do not know how they have been 'selected' and how they fit within the full database ("Black box" effect)
4. Observations range:
  - If going through the API: the metadata, their structure, and their format have been decided by the platform, not us
  - If web scraping: still, the platform might not collect the type of information we want

Importance of clear research questions and objectives

# To conclude:

- ‚Traditional‘ visitor studies methods can be adapted and used for researching in-gallery digital engagement
- Analytics on websites and platforms offer useful snapshots for understanding the success of an initiative
- Digital ethnographies are qualitative methods to observe online users‘ experiences
- Data-science methods are the most promising, but require training and specialists. Still, collaboration with researchers has proven successfull in revealing digital audiences‘ experiences



# Thanks for your attention!

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