

EXAMINING PUBLIC SENTIMENT AND INSIGHT ABOUT MUSEUMS AND THE EFFECTS OF DIGITIZATION USING TWITTER

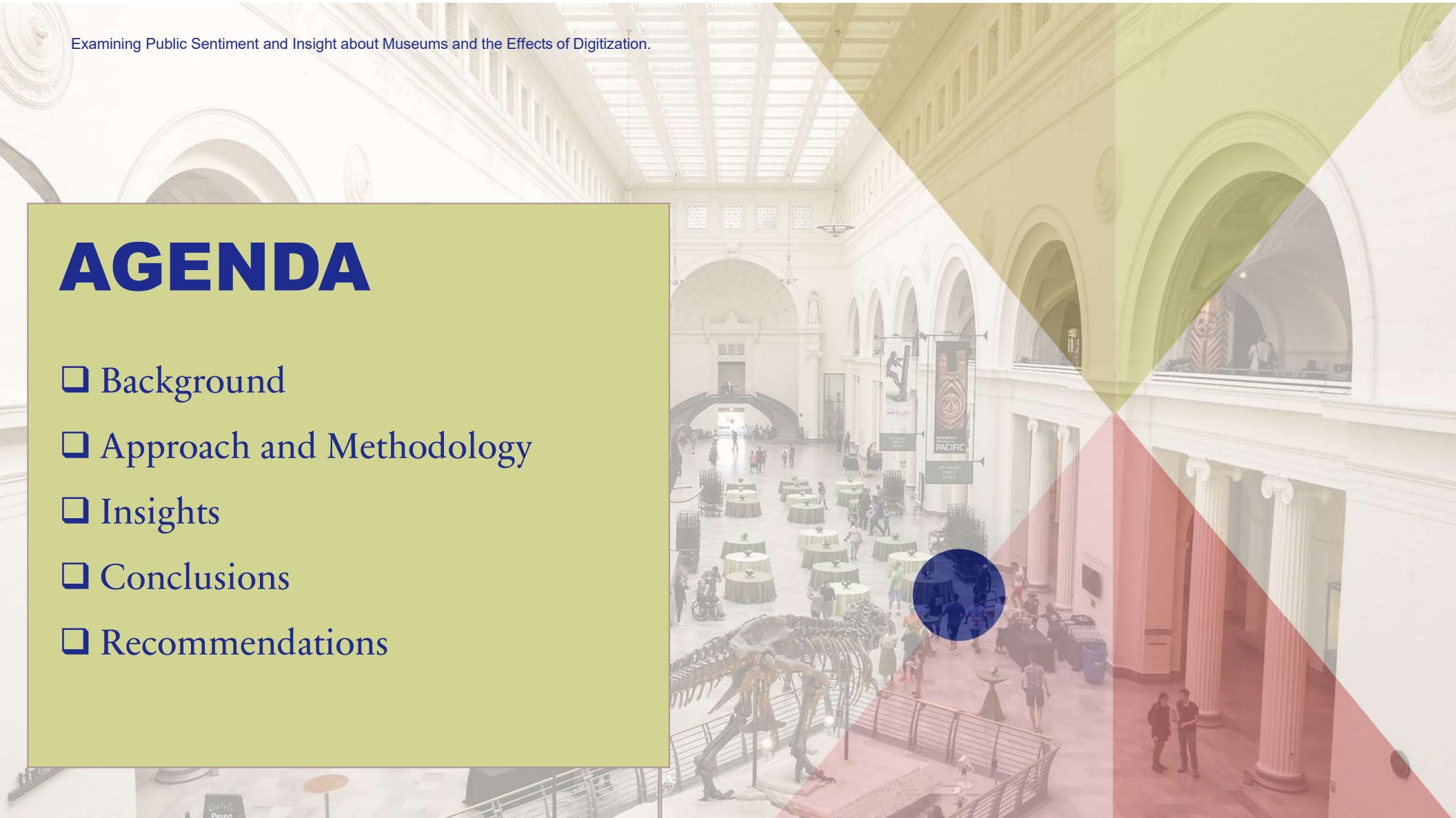
Group #4

- Aishwarya Arora
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- [REDACTED]
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Examining Public Sentiment and Insight about Museums and the Effects of Digitization.

AGENDA

- ❑ Background
- ❑ Approach and Methodology
- ❑ Insights
- ❑ Conclusions
- ❑ Recommendations



BACKGROUND

Research Objective:

- To determine Twitter sentiment regarding Museums and Digitalization to provide guidance to OMA to obtain more funding from Ministry of Tourism, Culture and Sport.



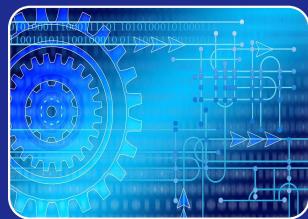
Historical Concept

- ✓ Museums main roles are to educate and to care for cultural artifacts.
- ✓ Museums compete with other leisure activities and need to understand their visitors better.



Smart Tourism

- ❖ Increasingly popular, allows museums to collect better data on visitors.
- ❖ Digital technology is used not only as part of exhibits but to provide access to material for researchers who otherwise couldn't use it.



Digitization

- Greater connection to material is expected with increased use of digital databases
- Digital technologies are most successful when they enable people to deepen relationships with museum objects and extend understanding of cultural contexts.

Examining Public Sentiment and Insight about Museums and the Effects of Digitization.

LITERATURE REVIEW

Museums

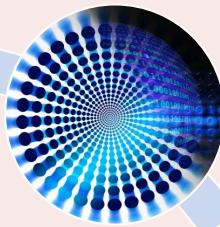
Challenges
Adopting
Digitization.

5

Big 5
Challenges.

Budgets -
Funding

MME
mixed media
exhibit



APPROACH AND METHODOLOGY

We followed a qualitative and quantitative approach with 5 different steps as follows:

Validated the problem through Literature Review.

Executed Sentiment Analysis.

Developed Insights.

1

2

3

4

5

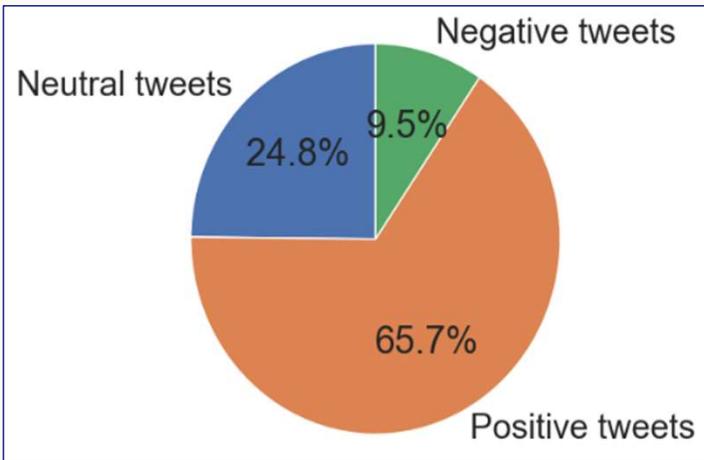
Ran Python code to get data from twitter.

Extracted Correlation.

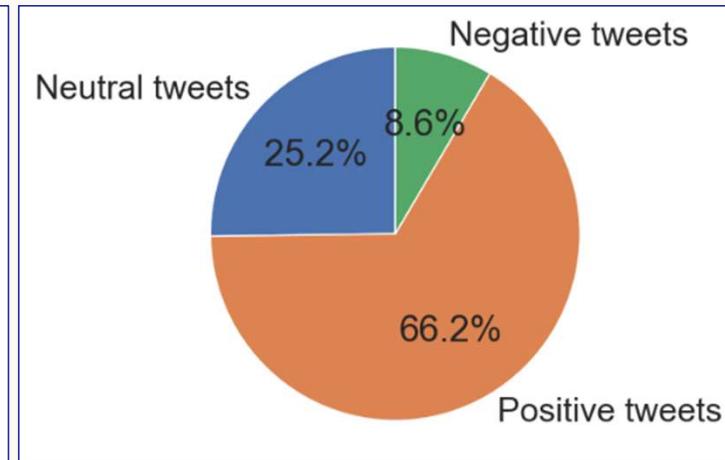
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INSIGHTS

Keywords: Museum and Digital
Time frames: Jun 2020 – Jan 2021
 &
 June 2022 – Jan 2023



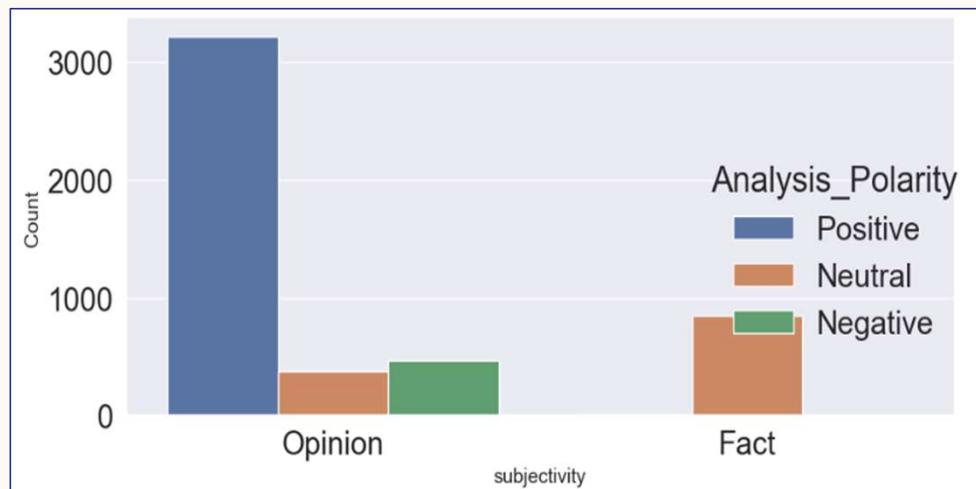
Jun 2020 – Jan 2021



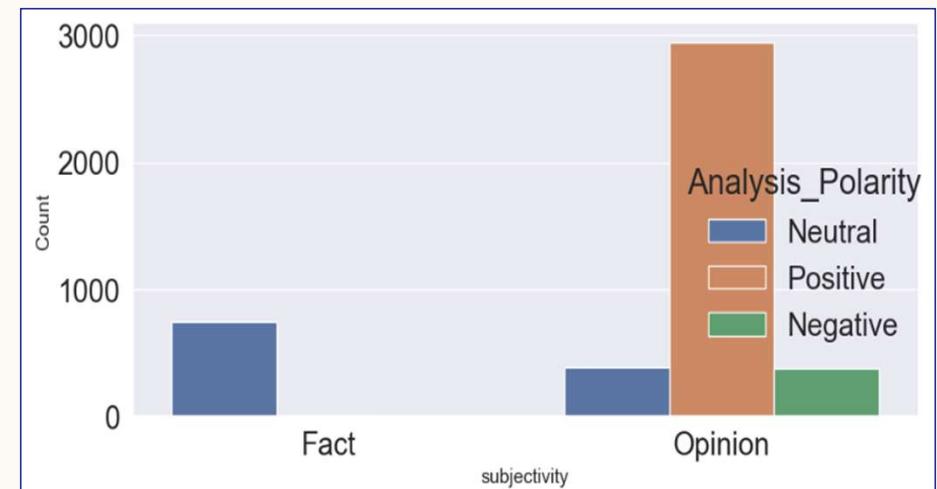
Jun 2022 – Jan 2023

TRENDS IN: SUBJECTIVITY AND POLARITY

Only 25% of youth were using the websites of Museums in 2015



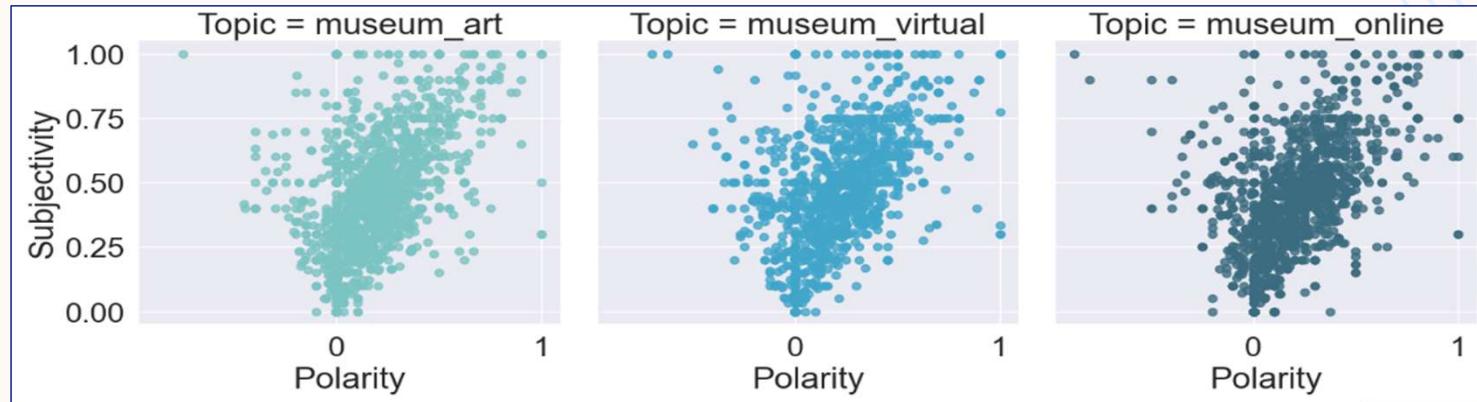
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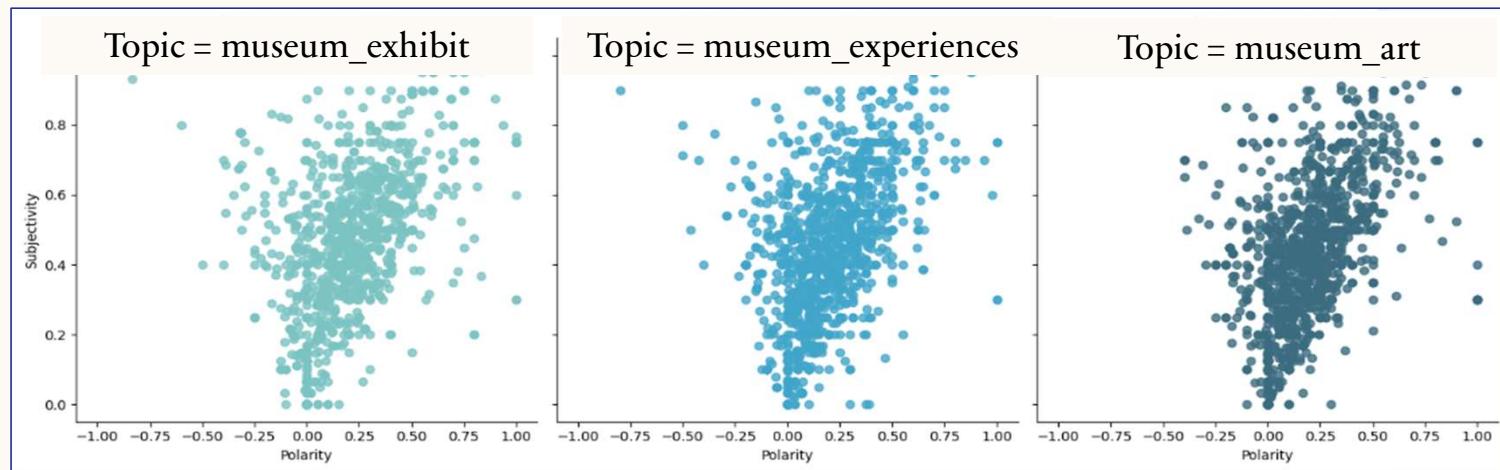
Jun 2022 – Jan 2023

TOPIC SUBJECTIVITY AND POLARITY TRENDS

Jun 2020 –
Jan 2021



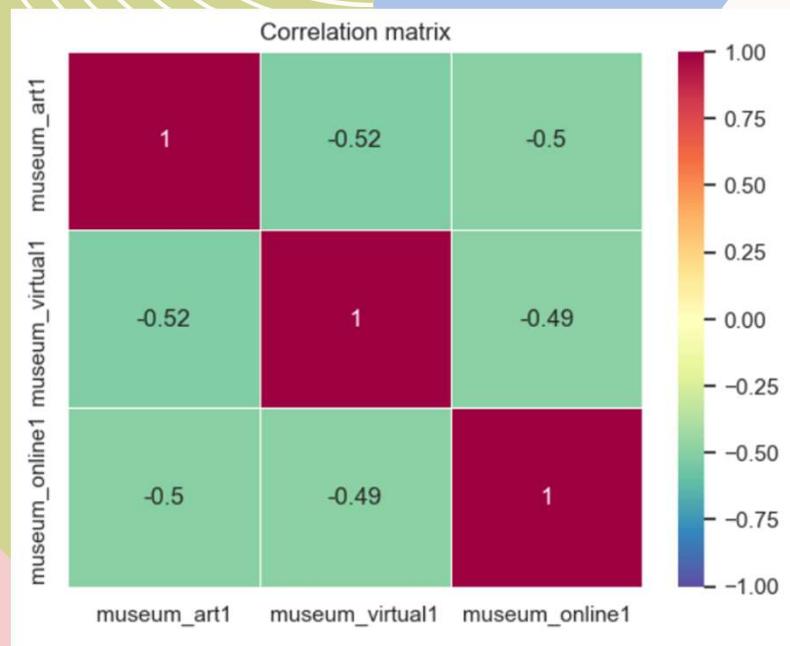
Jun 2022 –
Jan 2023



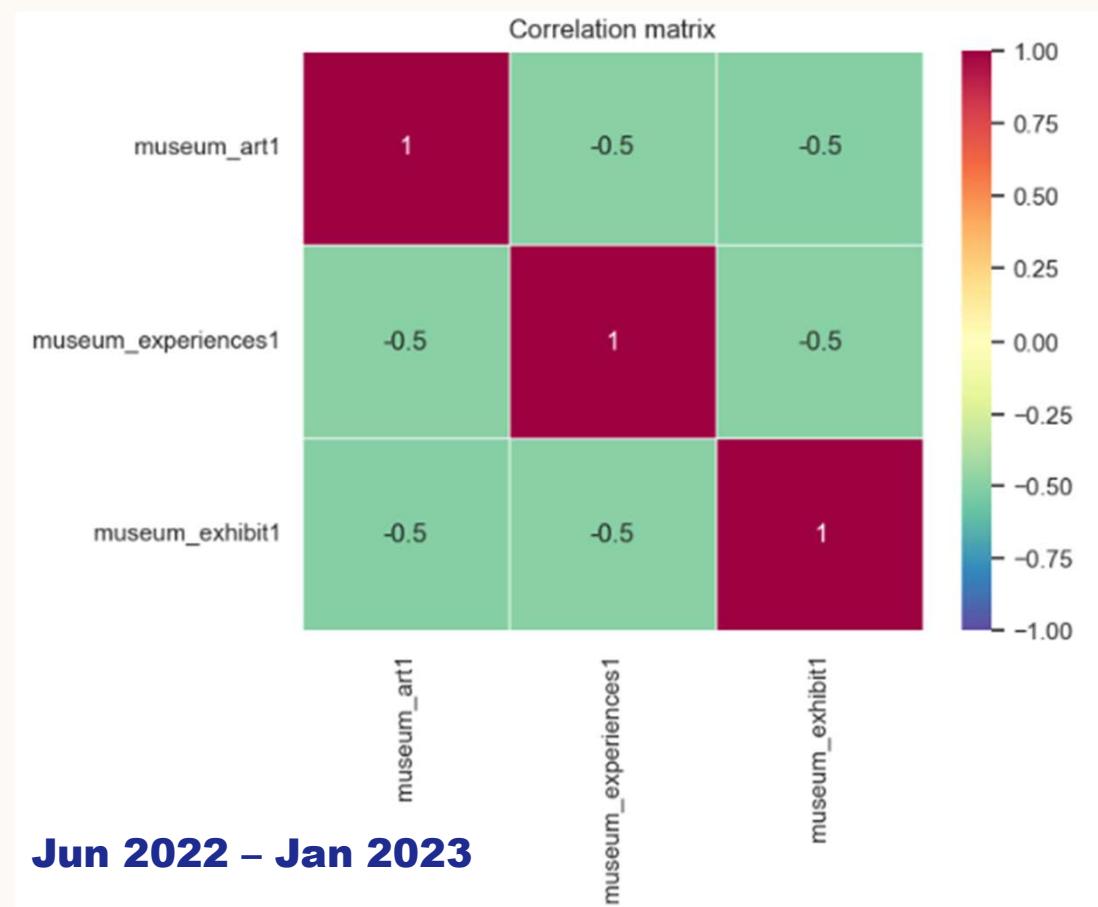
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CORRELATION

9



Jun 2020 – Jan 2021



Jun 2022 – Jan 2023

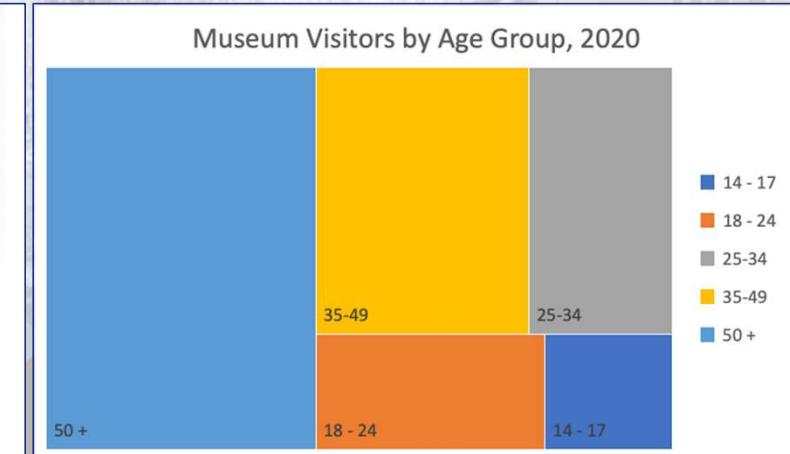
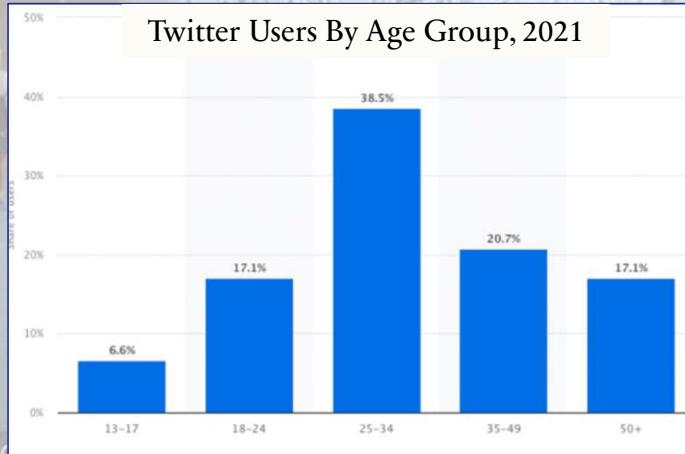
CONCLUSIONS AND KEY LEARNINGS

No significant differences found in sentiment and polarity over time.

There was a decrease in mentions of online and virtual experiences after the covid-19 pandemic.

Limitation: different age groups of twitter users and museum goers.

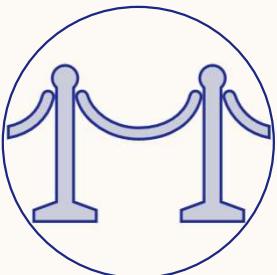
Museums should **focus** on themes that appear after pandemic – Exhibits and Experiences. There was an increase in the use of these terms indicating greater interest in engaging exhibits and in having interesting experiences when visiting museums.



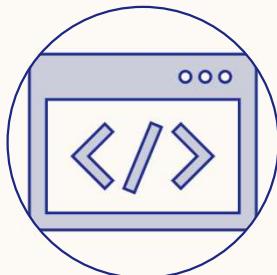
RECOMMENDATIONS



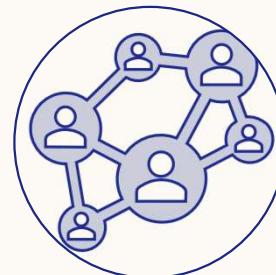
Increase online engagement with younger demographic



Interactive exhibitions



Collaborate with artists and host specialized exhibits



Use social media platforms



Showcase virtual art exhibits



Examining Public Sentiment and Insight about Museums and the Effects of Digitization

Q&A SECTION

**THANK YOU
GROUP #4**

APPENDIX



ALTERNATE KEY WORD SEARCH

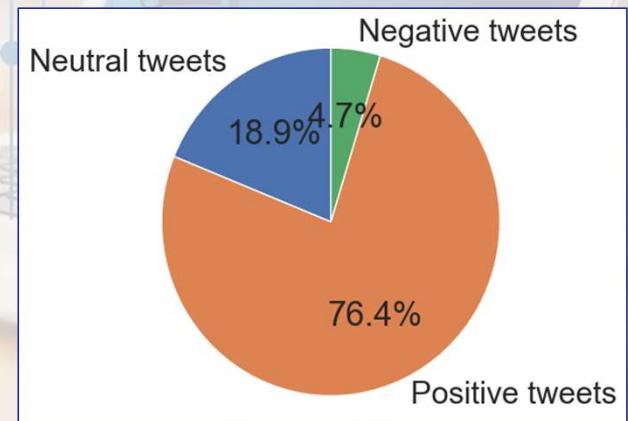
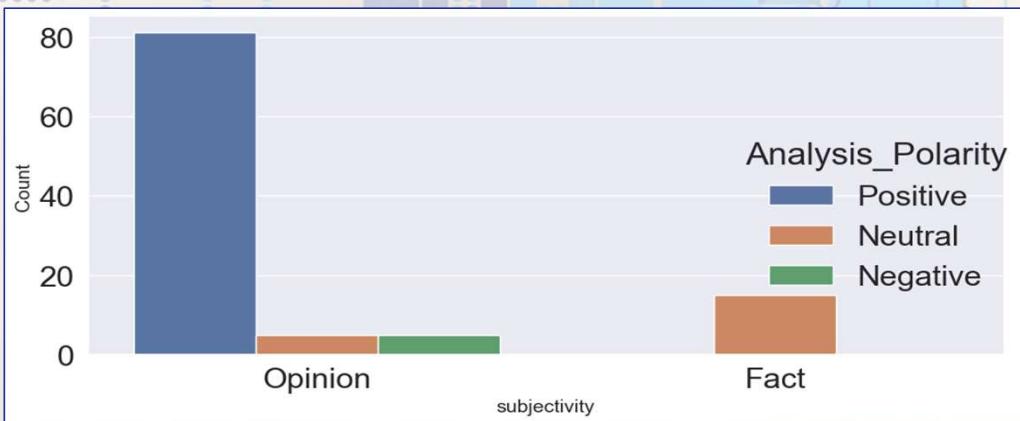
Museum and digitization

Jun 2020 – Jan 2021

106 tweets

Wordcloud interesting terms: project, collection, libraries, these could indicate interest in research opportunities.

Shows a more positive sentiment score but from far fewer people



DETAILED METHODOLOGY

Ran Python code to scrape tweets from Twitter using TwitterSearchScraper.

Used sklearn to train and test the natural language processing model

Used nltk PorterStemmer to stem words and WordNetLemmatizer to lemmatize words

From nltk imported stopwords and word_tokenize to remove stopwords and convert words to tokens - Ngrams converts words to tokens.

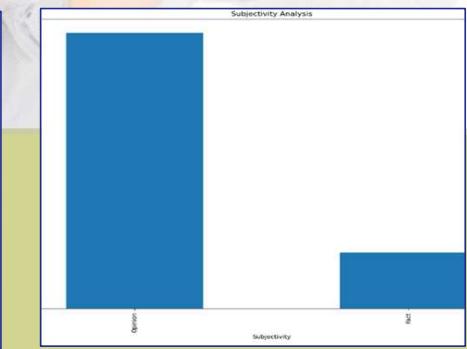
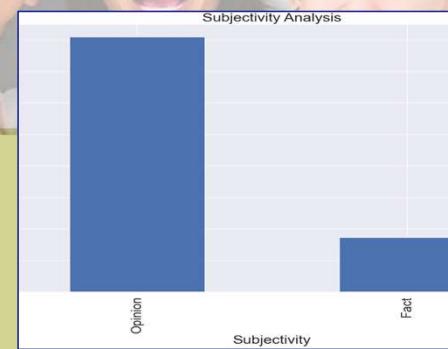
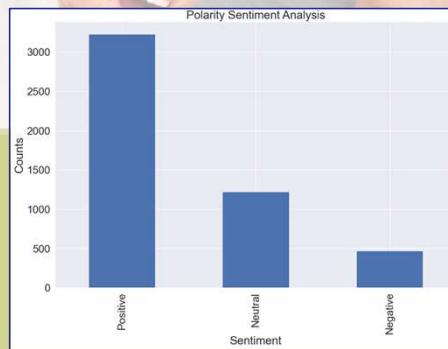
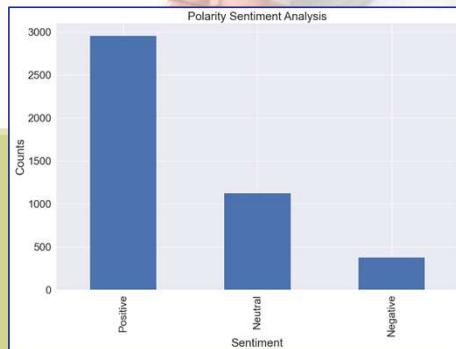
Textblob scores words on polarity and subjectivity and clean tweets of redundant terms.

Python code will create word cloud and charts for analysis

Tf-idf is used to convert words to numbers for clustering analysis – creates top words per category

Use SAS code to clean (remove brackets), complete clustering analysis and return cleaned file to Python to create cluster charts.

POLARITY & SUBJECTIVITY



POLARITY

Jun 2020 – Jan 2021

POLARITY

Jun 2022 – Jan 2023

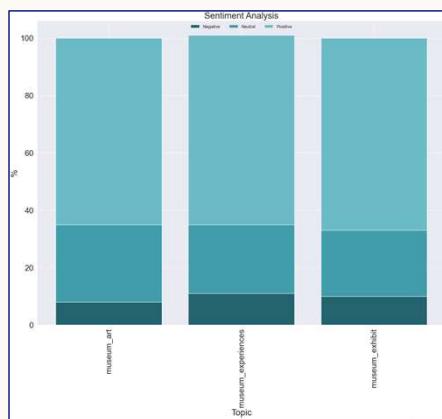
SUBJECTIVITY

Jun 2020 – Jan 2021

SUBJECTIVITY

Jun 2022 – Jan 2023

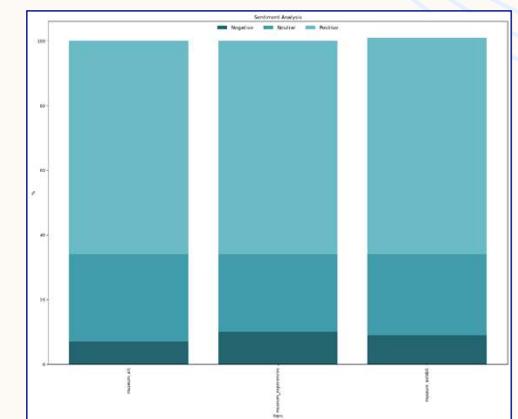
TRENDS IN THEME SENTIMENT ANALYSIS



Top 10 words for topic #0:
['collection', 'galleries', 'national', 'like', 'culture', 'help', 'amp',
'new', 'history', 'art']

Top 10 words for topic #1:
['art', 'work', 'world', 'virtual', 'heritage', 'content', 'archives', 'on
line', 'amp', 'new']

Top 10 words for topic #2:
['covid', 'amp', 'week', 'join', 'collections', 'online', 'new', 'exhibiti
on', 'virtual', 'art']



Top 10 words for topic #0:
['libraries', 'experiences', 'collections', 'archives', 'project', 'work',
'history', 'amp', 'new', 'art']

Top 10 words for topic #1:
['history', 'experience', 'like', 'collection', 'nft', 'people', 'nfts', '
new', 'world', 'art']

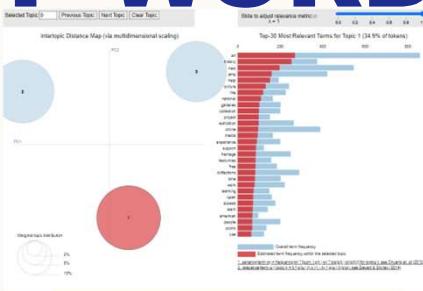
Top 10 words for topic #2:
['like', 'artist', 'exhibition', 'history', 'today', 'nft', 'time', 'amp',
'new', 'art']

Jun 2020 – Jan 2021

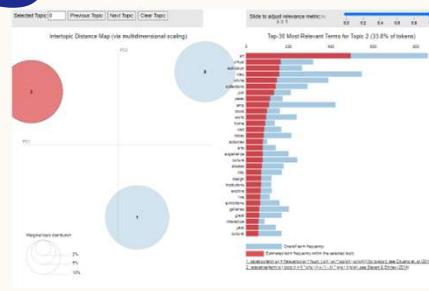
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THEME SELECTION FROM TOP WORDS

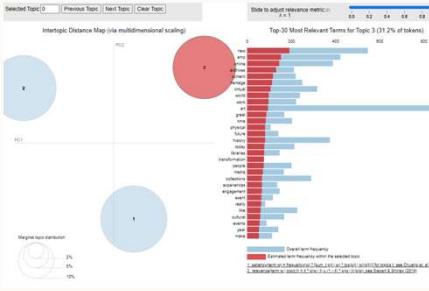


MUSEUM_ART
Jun 2020 – Jan 2021

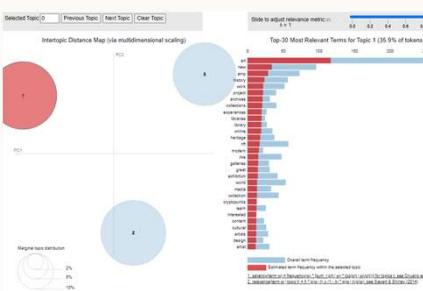


MUSEUM_VIRTUAL

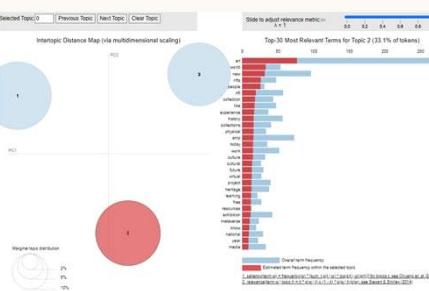
Jun 2020 – Jan 2021



MUSEUM_ONLINE
Jun 2020 – Jan 2021

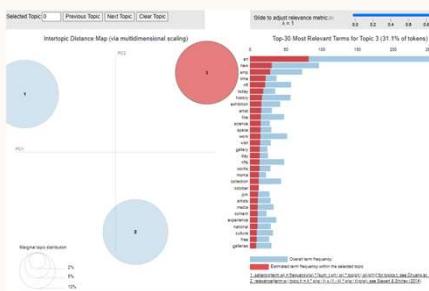


MUSEUM_ART
Jun 2022 – Jan 2023



MUSEUM_EXPERIENCES

Jun 2022 – Jan 2023



MUSEUM_EXHIBIT
Jun 2022 – Jan 2023

