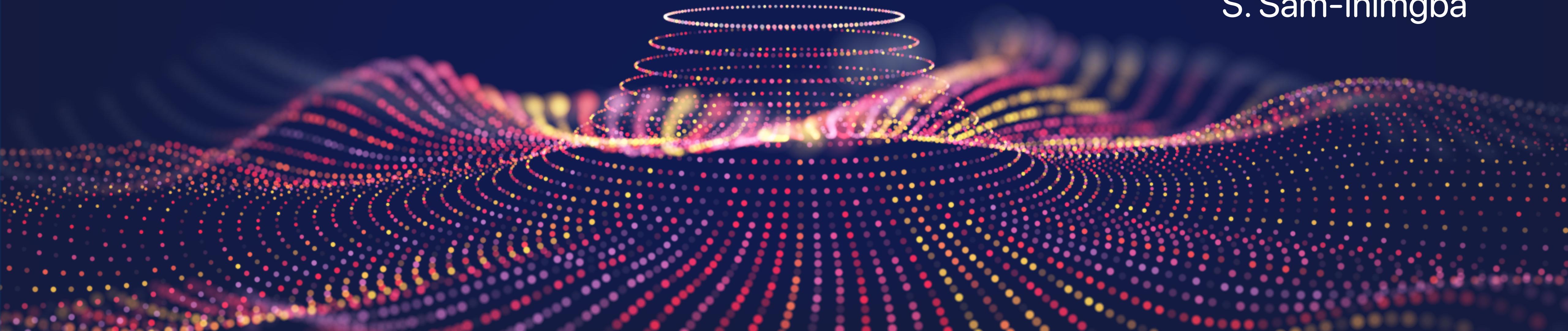


# DATA SCIENCE in DIGITAL MARKETING

2019

S. Sam-Inimgba



```
31     def __init__(self, path=None):
32         self.file = None
33         self.fingerprints = {}
34         self.logduplicates = True
35         self.debug = debug
36         self.logger = logging.getLogger()
37         if path:
38             self.file = open(path, 'w')
39             self.file.seek(0)
40             self.fingerprints = self._load_fingerprints()
41
42     @classmethod
43     def from_settings(cls, settings):
44         debug = settings.getboolean('debug')
45         return cls(job_dir=settings['job_dir'],
46
47     def request_seen(self, request):
48         fp = self.request_fingerprint(request)
49         if fp in self.fingerprints:
50             return True
51         self.fingerprints[fp] = request
52         if self.file:
53             self.file.write(fp + '\n')
54
55     def request_fingerprint(self, request):
56         return request_fingerprint(request)
```

# Outline

## Introduction

## Brand Health Analysis

- Sentiment Analysis
- Topic Mining

## Conclusion

# I am

## Samantha Sam-Inimgba

Data Analyst in a creative agency

### Background

Biomedicine and Computer Science





# Applications of DS in Digital Marketing

Programmatic buying of ads

Content Marketing Strategy

Campaign Marketing Strategy  
(Email, Social Media)

Brand Health Analysis

# Brand Health Analysis

Analyzing the health of brand on various aspects to generate insights that will be used to make business decisions.

## Why is this useful?

A brand wants to know if people are perceiving them how they want to be perceived. For instance, there are brands that consider themselves caregivers and so want they want to know if all of their digital efforts (Ads, posting strategy, tone of copy) are being received in that light.

## How can they find that out?

- Directly asking via surveys and focus groups
- Topic mining of user generated content in relation to the brand.
- Sentiment Analysis



# Topic Mining

# What are people saying about your brand without being prompted?

Topic mining involves scraping of these text and applying Natural Language processing to them. The text is broken down into various topics, and can be viewed in various ways



# Word Cloud

The words with the most frequency (Most mentioned topics) are shown in larger text.



# Topic Pie Chart

The words and sentences that are frequently mentioned emerge, and the sub topics under these topics are also highlighted.



# Sentiment Analysis

Polarity classification of text into negative, neutral and positive.

## When is this useful?

If a brand executed a campaign, or just experienced a current crisis, it can help measure how their brand is being received in the digital space in terms of polarity.

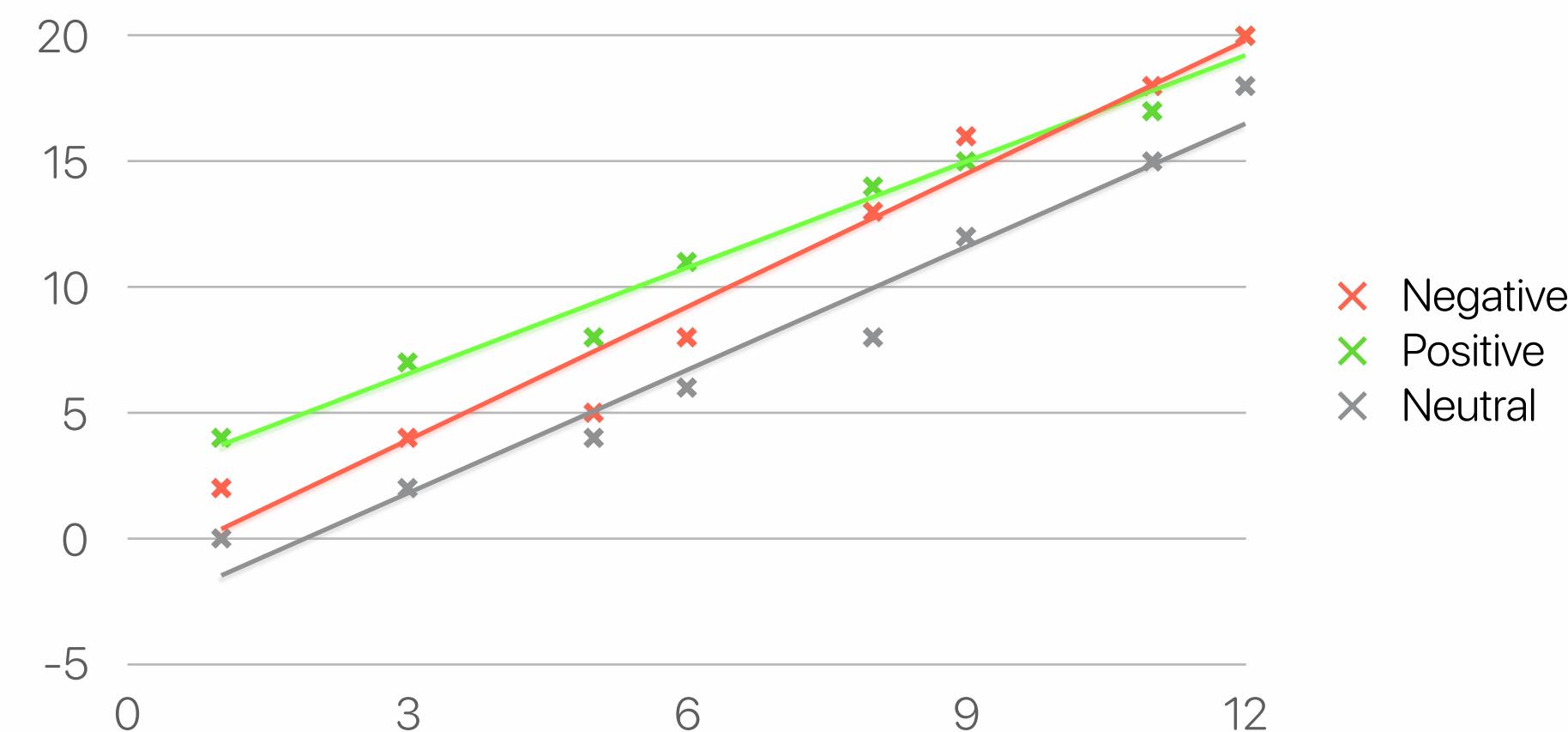
## How is it done?

- A sentiment analysis is carried out on user generated data in relation to the brand.
- The words are classified into various polarities using NLP
- The results can be represented in various ways.

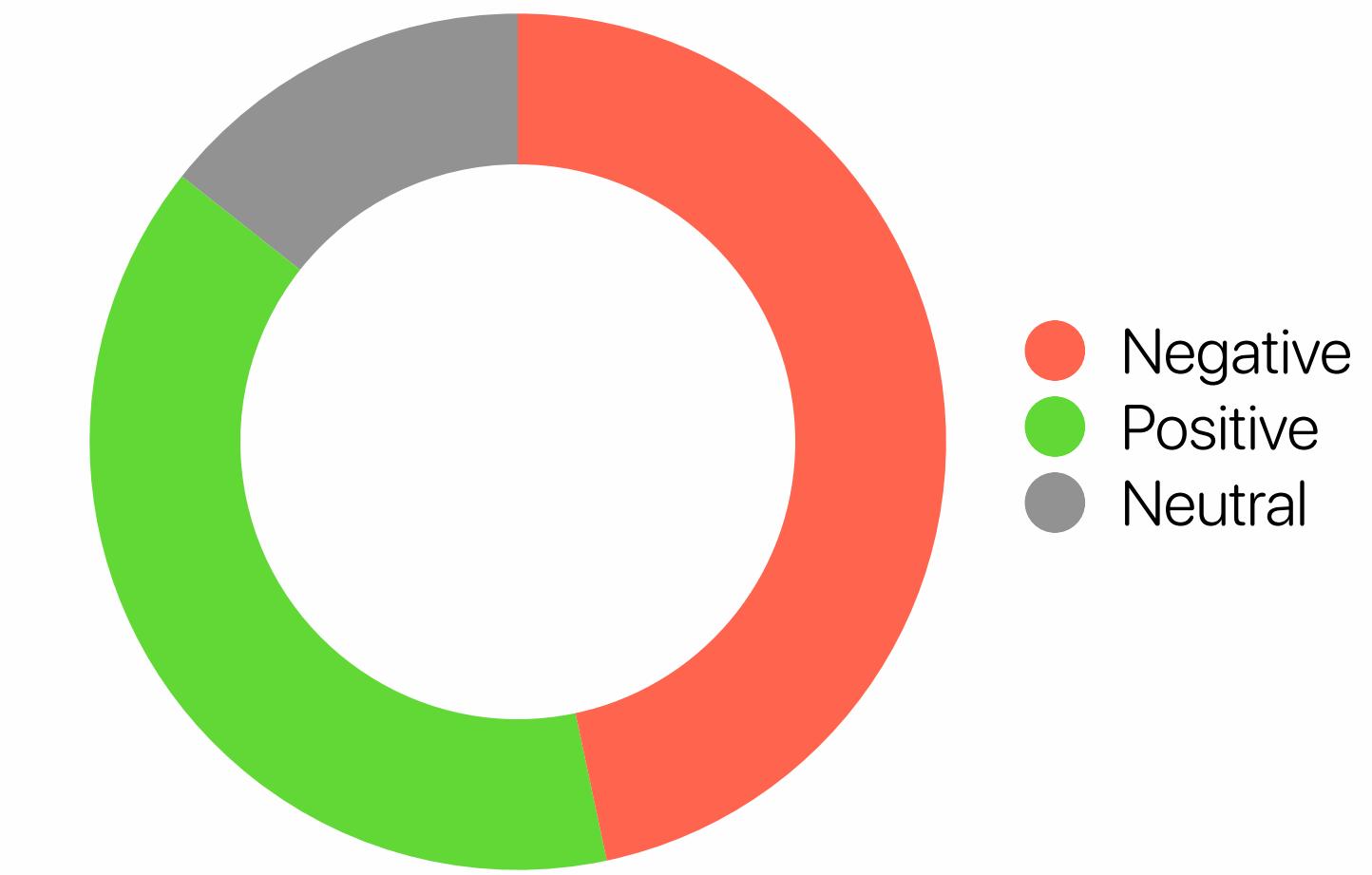
# Sentiment Analysis

The results can be viewed in various ways:

- Pie Chart
- Trend-line (Sentiment over time)



Trendline



Pie Chart

The insight from this is then used by the client to re-strategize, or make a business decision that is backed by data.



## Sentiment Analysis (Challenge)

Most of the models used are not trained on Nigerian text speak.

Take this reviews into consideration:

- ◉ This brand toh bad gan.
- ◉ I fit die for this brand oh.

The tool will classify these as a negative reviews, despite the fact that these are not negative reviews.

More work is being researched into creating models that are trained on Nigerian text speak, so that they're more accurate to the reality of Nigerian text speak.

There are also advanced beyond polarity into emotional states such as angry, sad, happy, excited.

# Benefits

## Topic Mining and Sentiment Analysis

Understanding the opinions of your customers/potential customers about your brands

Being able to stay on top of situations

Vital for making important strategic changes to help bring a business regain profitability or market share.



# Thank You

Samantha Sam-Inimgba