

A Project Report on

# **Dissecting the Digital Landscape: A Comprehensive Analysis Of Social Media**

**Bachelor of Technology  
In  
CIVIL ENGINEERING**

by

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**KUPPAM ENGINEERING COLLEGE**

(Approved by AICTE, Affiliated to JNTUA, Accredited by NBA & ISO 9001:2008 Certified)

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## **ABSTRACT**

This paper presents the report of a social media analytics (SMA) review. The review conducted to find out the methods and tools used in social media analytics, types of social media platforms which the SMA are performed and the field which SMA has been performed. Social media contains a lot of user uploaded data in different formats like text, images, photos, video etc. These large volumes of data are converted in meaningful information which can be understood using different methods and tools which are called social media analytics. A literature review of articles published between 2010-2020 has been conducted using articles obtained from reputable databases IEEE Xplore, ACM digital, Emerald insight, Springer Link and Science direct. A number of 44 articles have been selected for review from 110 retrieved papers. The paper has been reviewed according to the study objectives. The study found that SMA tools and techniques which have been used are sentiment analysis, youtube analytics, visible intelligence, IBM Watson tool and predictive models. The social media platforms which were mostly used are twitter, facebook, youtube, trip advisor and blogs. SMA has been observed in different fields like agriculture, politics, health, social and business sector.

**CHAPTER 1**  
**INTRODUCTION**

## 1.1 Overview

Introduction to "Dissecting The Digital Landscape:

A Comprehensive Analysis Of Social Media Data Analytics Project in IBM Cognos. In the age of information abundance, the realm of social media has emerged as a virtual treasure trove of insights waiting to be deciphered. The "Dissecting The Digital Landscape: A Comprehensive Analysis Of Social Media Data Analytics Project in IBM Cognos" embarks on a journey to navigate the complexities of this digital universe. Through the lens of IBM Cognos, a powerful business intelligence and data analytics platform, this project aims to harness the wealth of social media data, unravel its hidden patterns, and extract meaningful insights that drive informed decision-making.

Unveiling the Potential of IBM Cognos:

IBM Cognos stands as a beacon of advanced data analytics, offering an array of tools and functionalities designed to explore, visualize, and understand complex datasets. With its capabilities in data integration, exploration, and reporting, IBM Cognos provides a robust foundation for delving into the intricacies of social media data.

**CHAPTER 2**  
**LITERATURE REVIEW**

## **Define problems and Understanding:**

In Today's Digital Environment, Businesses face the challenge of effectively utilizing social media platforms for marketing purposes. To overcome this challenge, a comprehensive analysis of digital landscape is needed to maximize social media marketing strategies.

Various Business Problems are. Insufficient measurement and analytics. Inefficient Resource Allocation

- i. Poor Audience Targeting
- ii. Platform Selection
- iii. Unclear Objectives
- iv. Limited Awareness

## **Social Media Problem And Solution**

Social media analytics is a powerful tool for addressing various problems and challenges associated with social media. Here are solutions leveraging social media analytics for common issues:

### **1. Identifying Fake News and Misinformation:**

- Solution: Develop advanced natural language processing (NLP) models to detect fake news and misinformation. Analyze the sentiment, tone, and credibility of content to flag potentially false information.

### **2. Monitoring Cyberbullying and Harassment:**

- Solution: Implement sentiment analysis and social listening tools to identify instances of cyberbullying and harassment. Track keywords and patterns associated with harmful behavior.

### **3. Tracking Trending Topics and Sentiment:**

- Solution: Use real-time analytics to monitor trending topics and public sentiment. This can help organizations and governments respond quickly to emerging issues.

### **4. Evaluating User Engagement:**

- Solution: Analyze user engagement metrics like likes, shares, comments, and click-through rates to assess the impact of content and campaigns. Identify what resonates with the audience.

## 5. Measuring Brand Reputation:

- Solution: Employ social media monitoring tools to track brand mentions and sentiment. Analyze feedback to improve products or services and address customer concerns promptly.

## Existing Problem

Organizations are increasingly interested in their social media profile, and can derive insights into how they are perceived through analysis and classification. Twitter has become one of the top social media platforms for news, information, and interaction with brands and influential figures around the world. Therefore, it is no surprise that companies consider this micro blogging platform an essential channel for their marketing strategy and also, to provide customer service. Analysis of Twitter data can help companies obtain qualitative insights to understand how people are talking about their brand.

## Proposed Solution

An application is build which subscribes to a Twitter feed that is configured by the user. Each tweet received is analyzed for emotional tone and sentiment. The information is presented in a Web UI as a series of graphs and charts.

We make use Node-red to build Dashboard and sentiment node to see the sentiment of tweets and displays the number of positive tweets and negatives that a hashtag has using line charts

## Business Requirements

The business requirements for this project would likely include

**Data collection:** The first requirement is to collect data from Twitter that is relevant to the number of tweets,retweets,likes and shares.

**Data cleaning and preparation:** The collected data must be cleaned and processed to ensure it is suitable for analysis. This may involve removing irrelevant information, correcting inconsistencies and missing values, and transforming the data into a format that is compatible with the analysis tools.

**Data analysis:** The data must be analysed to uncover meaningful insights.This could involve using techniques such as descriptive statistics, regression



analysis, and data visualization to gain a deeper understanding of the data.

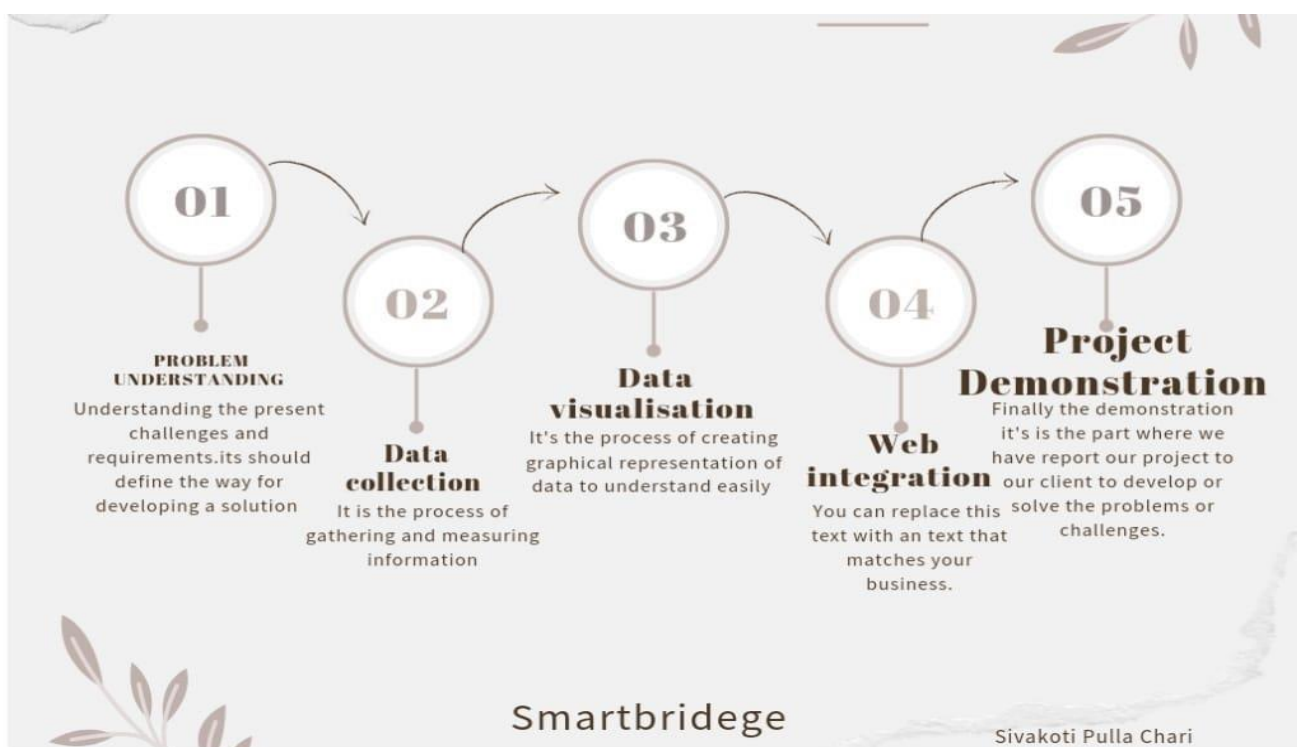
**Report creation:** The insights and findings from the data analysis must be presented in a comprehensive report that includes visualizations and data tables. The report must be well organized and easy to understand, with clear and concise explanations of the results.

## Literature Survey

A literature survey for a project titled "Tweet, Tweet, Retweet: Conversational Aspects of Retweeting on Twitter", Social media has enabled conversations to occur asynchronously and beyond geographic constraints, but they are still typically bounded by a reasonably well defined group of participants in some sort of shared social context. Network-driven genres (e.g., social network sites, microblogging) complicate this because people follow the conversations in the context of individuals, not topical threads. Yet, conversations still emerge between dyads and among groups.

Overall, the literature survey would provide a comprehensive overview of the current state of knowledge in the field of Social media and would provide a foundation for the analysis and report creation aspects of the project.

## THEORETICAL ANALYSIS



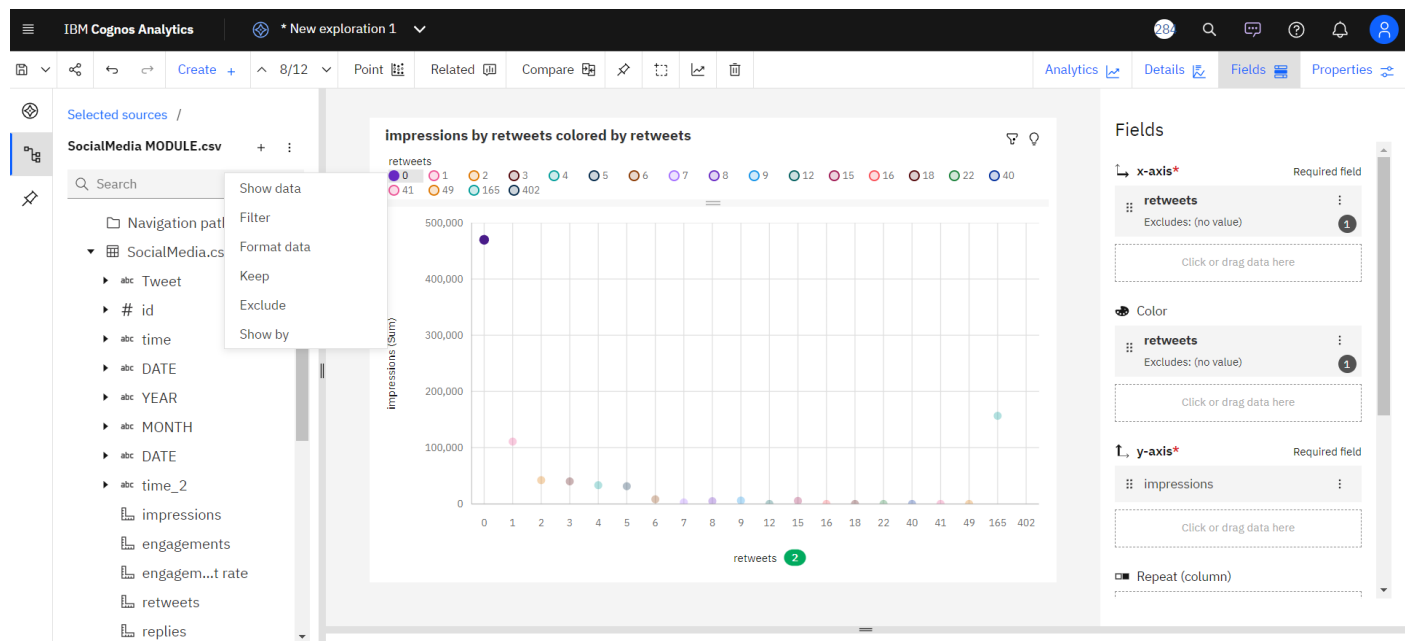
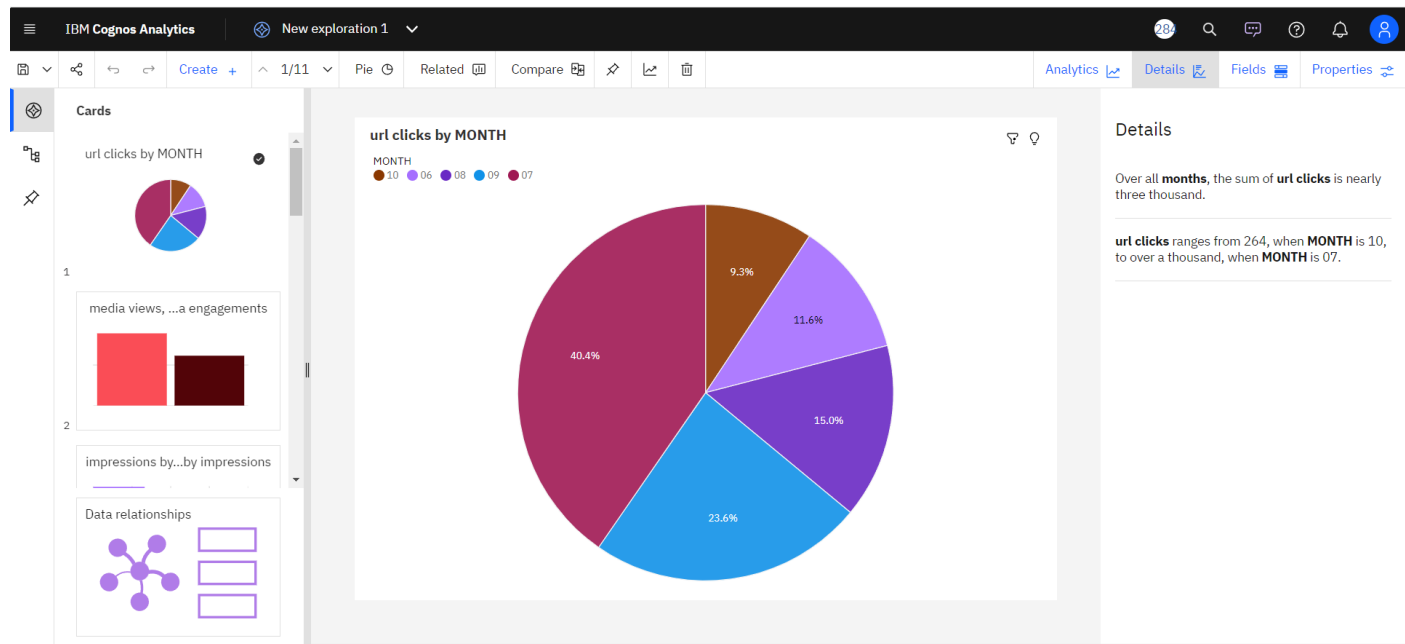
## **CHAPTER 3**

**NO OF CALCULATION FIELDS**

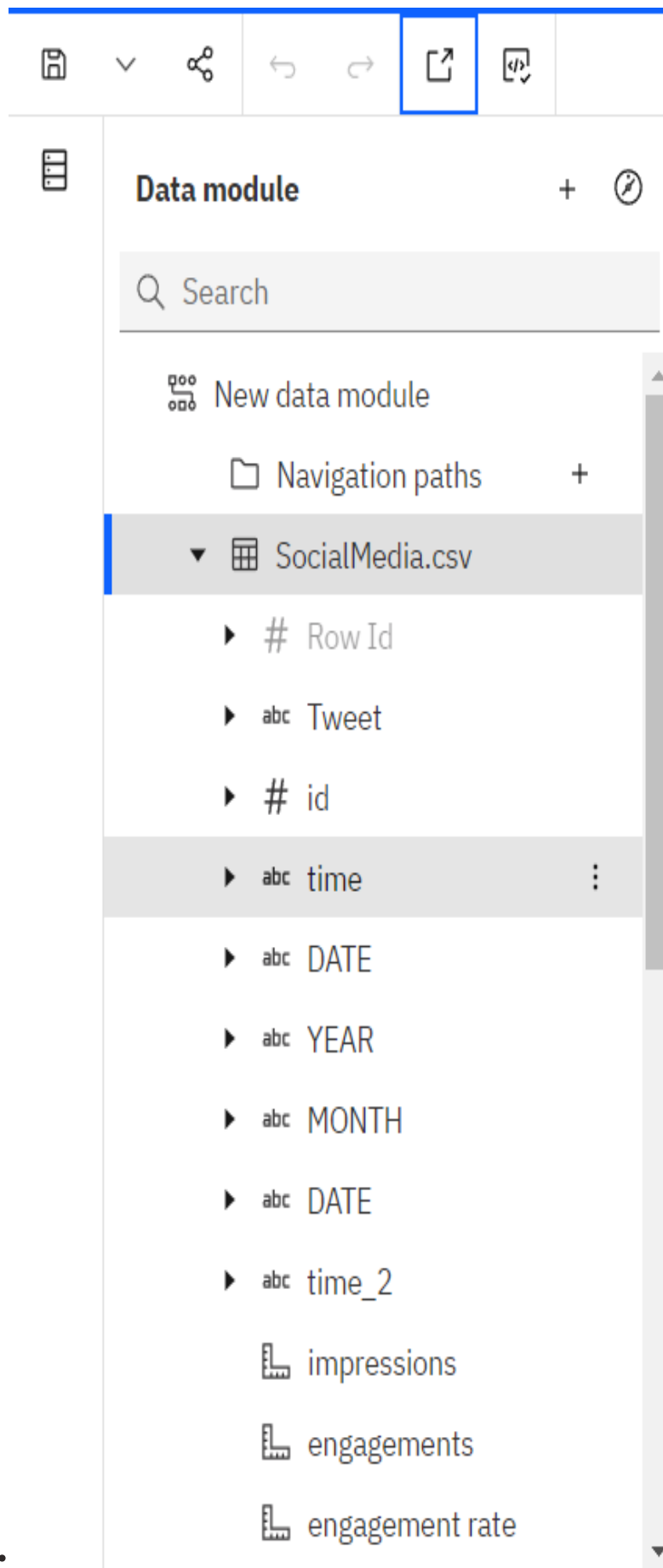
**UTILIZATION OF DATA FILTERS**

**NO OF VISUALIZATIONS/ GRAPHS**

# UTILIZATION OF DATA FILTERS:



## NO OF VISUALIZATIONS/ GRAPHS






## Data module




Q Search


 engagements


 engagement rate

 retweets


 replies

 likes


 user profile clicks


 url clicks

 hashtag clicks

 detail expands

 permalink clicks

 app opens


 app installs

 follows

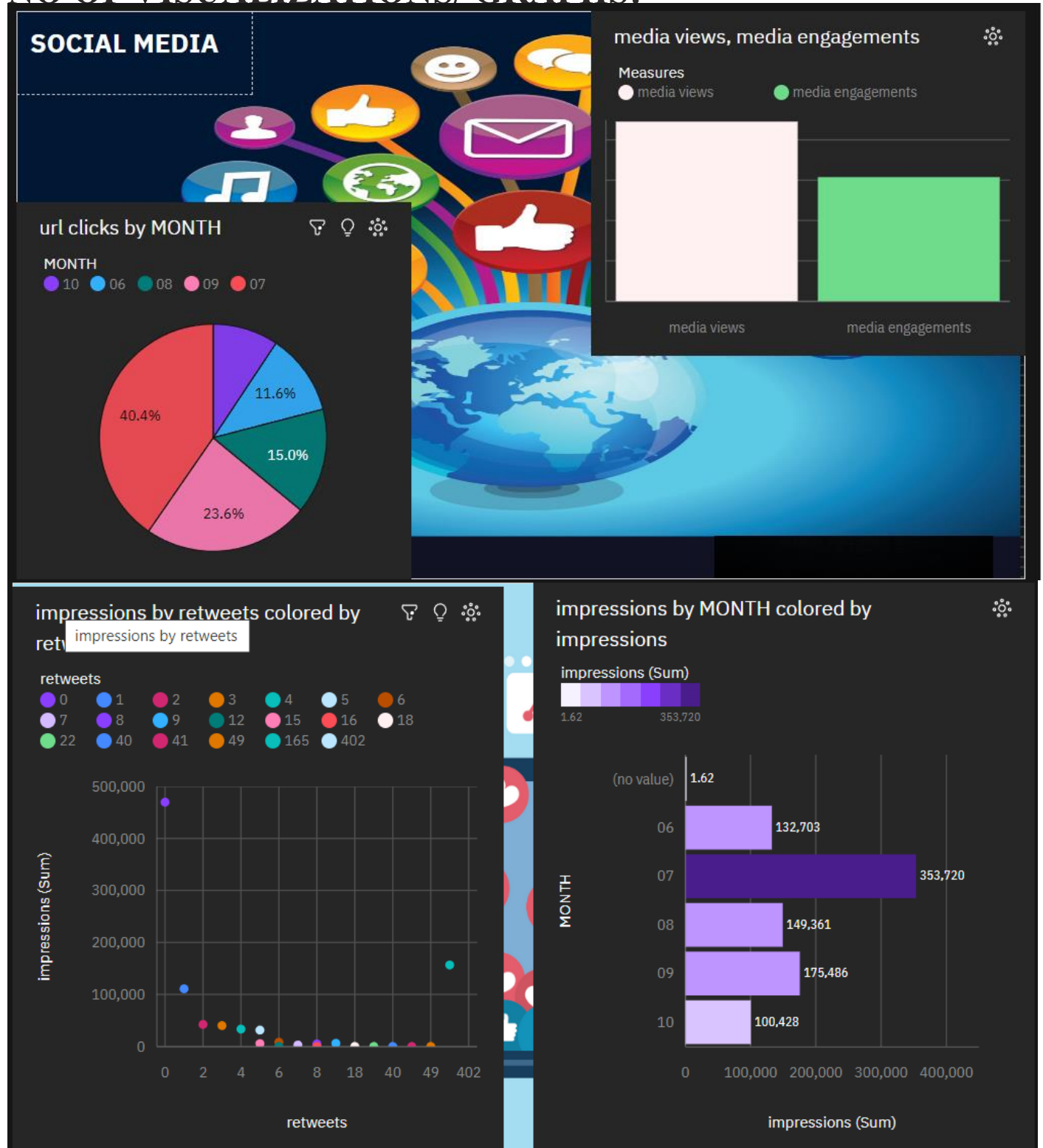
 email tweet

▶ # dial phone

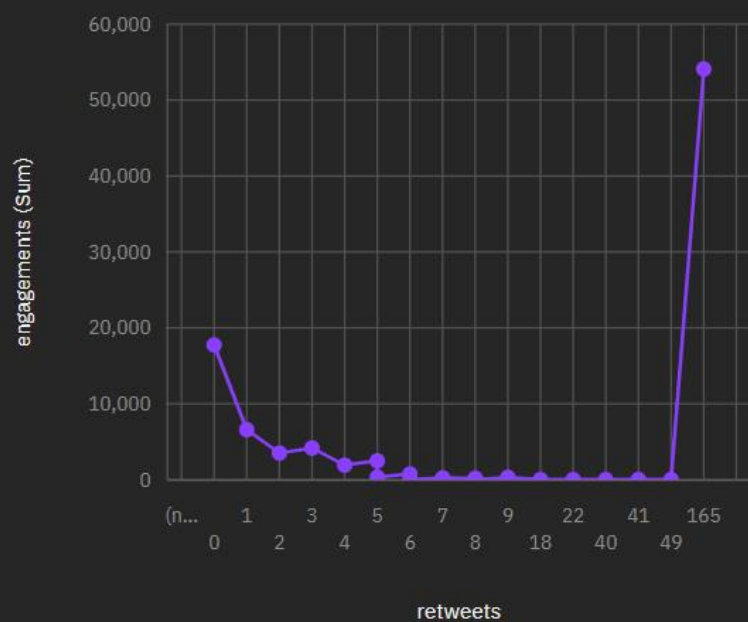
 media views

 media en...gements

## NO OF VISUALIZATIONS/ GRAPHS:



## engagements by retweets



retweets

1.11K

retweets

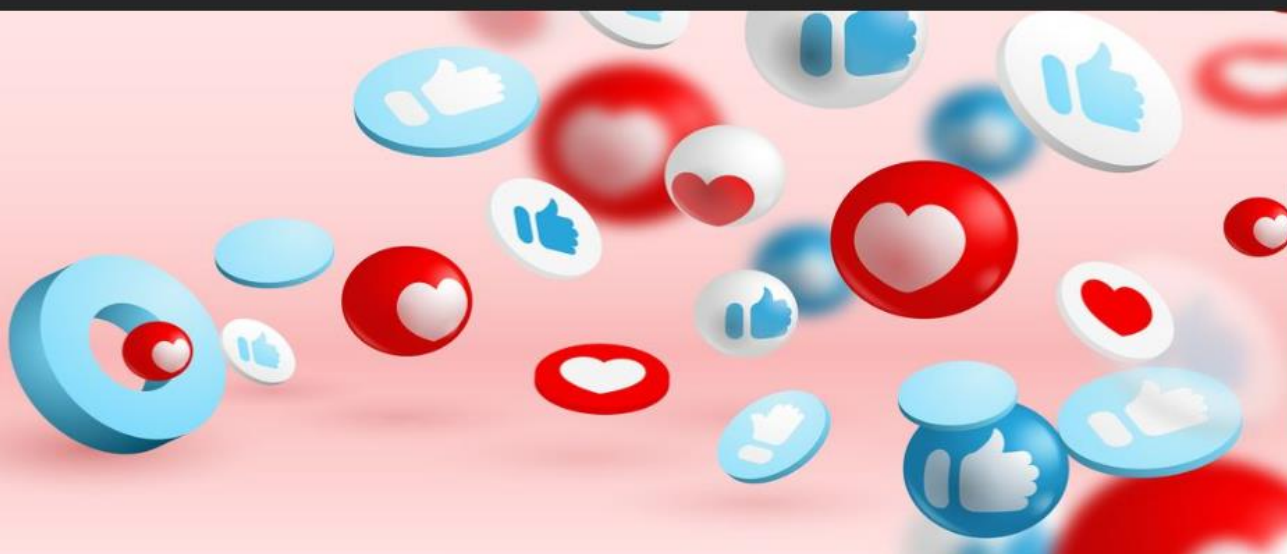
engagements

92.3K

engagements

## retweets, likes and email tweet

retweets	likes	email tweet
1,106	8,187.01	2,053



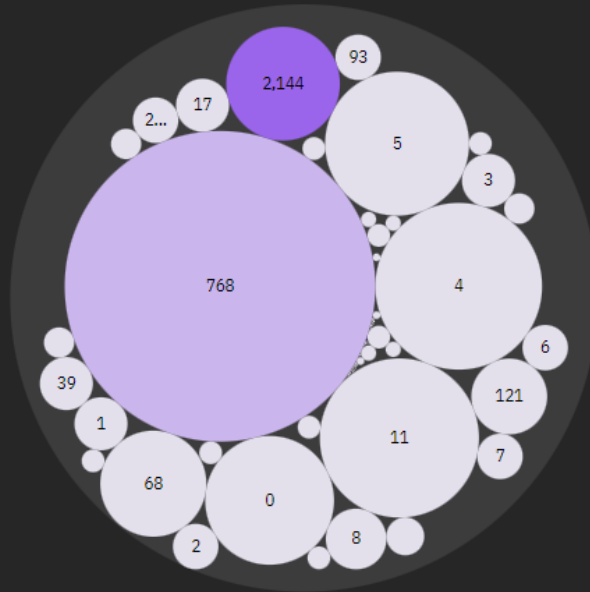
detail expands hierarchy colored by detail expands and sized by hashtag clicks

hashtag clicks (Su...

0 41

detail expands (Su...

0 4,024



NUMBER OF RETWEETS

1.11K

retweets



# CLASSIFICATION OF RETWEETS

retweets

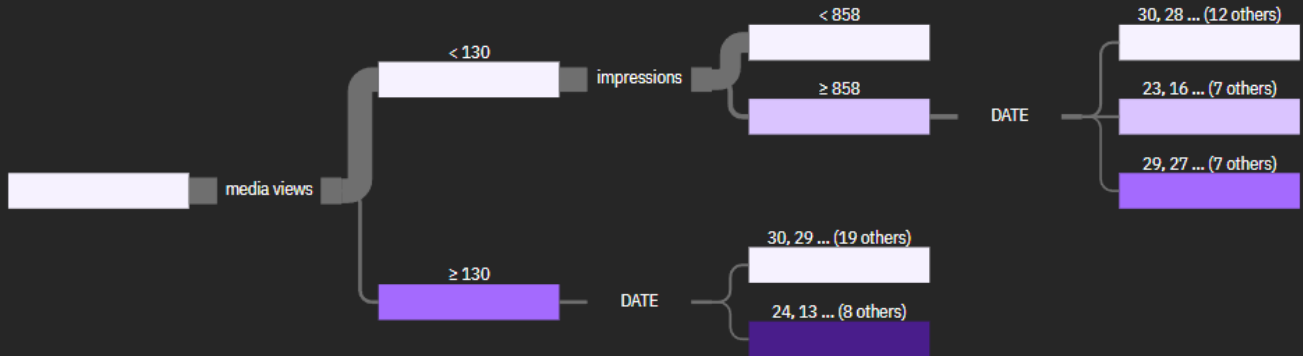


retweets

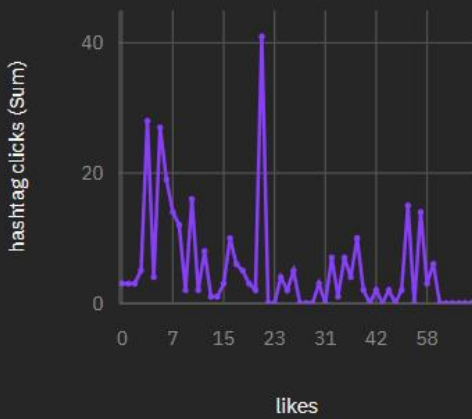


Nodes

All



hashtag clicks by likes



#hashtags

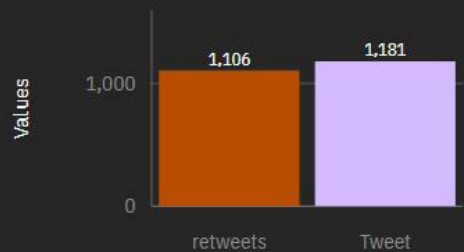
@alexbemore

retweets, Tweet



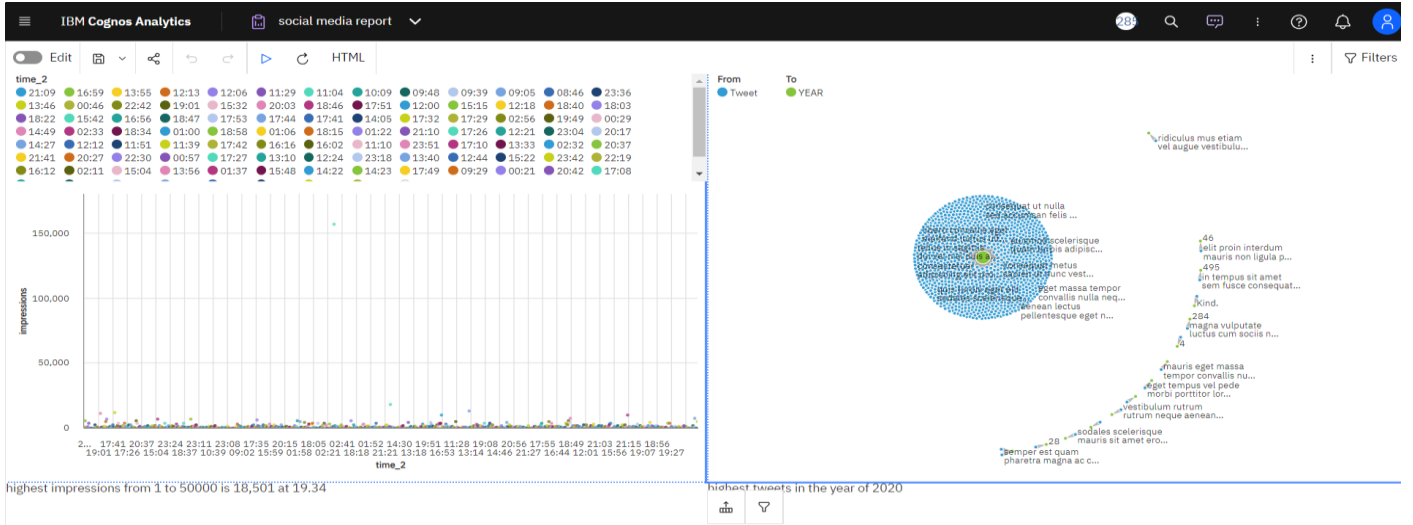
Measures

retweets Tweet



Measures

# IBM REPORT



**CHAPTER 4**  
**Applications**  
**Advantages And Disadvantages**

## **Applications:**

Social media analytics applications have potential in several health services, according to literature there are some studies explaining this well, Kannan et al. (2018) introduced the study using topic discovery and contents analysis in twitter platform to determine the information about Dengue fever shared in twitter. Culotta (2010) introduces the study which uses predictive analysis to predict the rate of influenza in a population using twitter messages. The study conducted by Martinez et al. (2019) uses sentiment analysis techniques to get insight on social media ecigarettes belief and risk perceptions using twitter comments. Another study conducted by Al Kubaizi et al. (2015) analyse the comments on people's experience about the use of herbs which was advised by the prophet Mohammed (PBUH) the study uses sentiment analysis, natural language processing and other tool like IBM Watson natural understand language to the twitter comments

Certainly, comprehensive analysis of social media data has a wide range of applications across various industries. Here are some notable applications:

1. **Brand Monitoring and Reputation Management:** Businesses monitor social media to track mentions, sentiment, and discussions about their brand. This helps manage reputation and respond to customer feedback promptly.
2. **Market Research and Consumer Insights:** Social media analysis provides insights into consumer preferences, behaviors, and opinions. This information informs product development, marketing strategies, and market trends.
3. **Crisis Management:** Real-time monitoring of social media helps detect and manage potential crises, enabling quick responses to negative sentiment or public concerns.
4. **Competitor Analysis:** Businesses analyze competitors' social media activities to understand their strategies, strengths, and weaknesses, aiding in competitive decision-making.
5. **Influencer Marketing:** Identifying influential individuals on social media allows brands to collaborate with them for targeted marketing campaigns and increased visibility.
6. **Content Strategy:** Social media analysis helps tailor content to audience preferences, optimizing engagement and reach.

## **Advantages :**

Due to its advantages this SMA has to be performed in a good and manageable way so that the results can be of high advantages. For future uses further recommendations are for studies to be conducted which will give the frame work for implementation and management of SMA process in different applications eg

improving customer service and market research on social channels

Investing smarter in product development and marketing

Increasing competitive intelligence and social media ROI

Spotting patterns and trends related to products and brands

## **Disadvantages**

The unstructured, unprompted nature of social media conversations means the data might not include the information and insights organization are looking for

The quality and amount of data may not be consistent

Social media is generally not useful for in depth feedback

Platforms changing constantly

### **Data Overload:**

The vast amount of data generated on social media can lead to information overload, making it challenging to extract meaningful insights.

### **Negative Publicity:**

While social media analysis helps manage crises, it can also magnify negative publicity if not handled carefully

It's important to recognize that both the advantages and disadvantages can vary depending on the specific goals, industry, and context of the social media analysis. Proper planning, ethical considerations, and a clear understanding of the potential risks and rewards are crucial when dissecting the digital landscape through comprehensive social media analysis.

# **CHAPTER 5**

## **CONCLUSION**

## Conclusion

In conclusion, dissecting the digital landscape through comprehensive analysis of social media offers a wealth of opportunities and challenges across various domains. This multifaceted endeavor provides businesses, organizations, researchers, and policymakers with valuable insights into the ever-evolving world of online interactions. Through advanced tools, technologies, and methodologies, this analysis allows for a deeper understanding of user behaviors, sentiments, and trends. However, it's essential to approach this task with a balanced perspective, acknowledging both the advantages and disadvantages that come with delving into the vast sea of social media data.

The advantages are substantial. Real-time insights empower swift responses to emerging trends and issues, enhancing strategic decision-making. Businesses can harness the power of consumer feedback for product refinement and marketing optimization. Competitive intelligence derived from social media analysis enables informed strategies, fostering innovation and adaptability. Moreover, social media serves as a barometer of public sentiment, influencing political, social, and economic discourse.

However, the path to these advantages is fraught with challenges. Ethical considerations loom large, as data privacy and algorithmic biases demand responsible stewardship of user information. The veracity of the data itself poses a challenge, given the potential for misinformation and the dynamic nature of online content. The analytical complexity, involving sentiment interpretation and network dynamics, calls for sophisticated tools and interdisciplinary expertise. The sheer volume of data necessitates robust infrastructures to ensure effective processing and storage. Moreover, the rapid pace of change in the digital landscape requires ongoing adaptation to platform updates and evolving user behaviors.

As the digital landscape continues to evolve, comprehensive analysis of social media will remain a dynamic and indispensable pursuit. By navigating these challenges and capitalizing on the advantages, individuals, businesses, and society at large can leverage social media insights to make informed decisions, drive innovation, and foster meaningful connections in the interconnected world of today and tomorrow.

# **CHAPTER 6**

## **FUTURE SCOPE**



## **FUTURE SCOPE :**

The future scope of dissecting the digital landscape through comprehensive analysis of social media holds immense potential, driven by advancements in technology, changing user behaviors, and the growing importance of digital interactions. Here are some key areas of future development:

1. **Advanced AI and NLP:** Artificial intelligence and natural language processing will become more sophisticated, enabling better sentiment analysis, emotion recognition, and context understanding, leading to more accurate insights.
2. **Deep Learning for Image and Video Analysis:** The ability to analyze visual content like images and videos will continue to improve, allowing for better understanding of multimedia-rich social media posts.
3. **Predictive Analytics:** Analyzing historical data patterns will enable better predictions of future trends and behaviors, aiding in proactive decision-making.
4. **Personalization and Hyper-Targeting:** Improved analysis will drive highly personalized content and advertisements, enhancing user engagement and conversion rates.
5. **Ethical AI and Privacy Preservation:** Focus on ethical data use and privacy protection will lead to the development of tools that analyze data while respecting user rights and confidentiality.
6. **Real-Time Monitoring and Alerts:** Enhanced real-time monitoring will enable quicker response to emerging trends, potential crises, and market shifts.