LAB MANUAL

PART A

(PART A : TO BE REFFERED BY STUDENTS)

**Experiment No-01**

**A.1 Aim:**

**Study various –**

1. Social Media platforms ( Facebook, twitter, YouTubeetc)
2. Social Media analytics tools ( Facebook insights, google analytics net lyticetc)
3. Social Media Analytics techniques and engagement metrics (page level, post level, member level)
4. Applications of Social media analytics for business.

e.g. Google Analytics https://marketingplatform.google.com/about/analytics/

https://netlytic.org

| **Lab Objective** | To understand the fundamental concepts of social media networks |
| --- | --- |
| **Lab Outcome** | Understand characteristics and types of social media networks |

**A-2 Prerequisite**

Source-Internet

**A.3 OutCome**

Students will able to understand the fundamentals, characteristics and types of social media networks

**A.4 Theory:**

Based on below mentioned points students have to study social media platform and various tools.

1. Social Media platforms ( Facebook, twitter, YouTubeetc)
2. Social Media analytics tools ( Facebook insights, google analytics net lyticetc)
3. Social Media Analytics techniques and engagement metrics (page level, post level, member level)
4. Applications of Social media analytics for business.

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**Study points**

* 7 layers of social media analytics
* Social media analytics cycle
* Social media analytics tools

| **Layer of social media** | **Example of tools** |
| --- | --- |
| Text | Discovertext, Lexalytics, Tweet Archivist  Twitonomy  Netlytic  LIWC  Voyant |
| Actions | Lithium  Twitonomy  Google Analytics  SocialMediaMineR |
| Network | NodeXL  UCINET  Pajek  Netminer  Flocker  Netlytic  Reach  Mentionmapp |
| Mobile | Countly  Mixpanel  Google Mobile Analytics |
| Location | Google Fusion Table  Tweepsmap  Trendsmap  Followerwonk  Esri Maps  Agos |
| Hyperlinks | Webometrics Analyst VOSON |
| Research Engines | Google Trends |

PART B

(PART B: TO BE COMPLETED BY STUDENTS)

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| Class: BE A COMP | Batch: A1 |
| Date of Experiment: 17-01-2024 | Date of Submission: 17-01-2024 |
| Grade: | |

**B.1.Study the fundamentals of social media platform and social media tools:**

YouTube is a powerful social media platform for video content. Tools like YouTube Analytics provide creators with key metrics like views, watch time, and demographics. Insights into audience behavior, engagement, and trending topics guide content strategy. Features like comments and likes enable sentiment analysis, enhancing community interaction. Advanced analytics tools like VidIQ and TubeBuddy offer SEO optimization, helping creators grow their channels strategically. Overall, YouTube's analytics ecosystem empowers creators to refine content, engage viewers, and navigate the evolving landscape of online video.

| **Aspect** | **Tools/Data** | **Application** |
| --- | --- | --- |
| Basic Metrics | YouTube Analytics | Provides views, watch time, demographics, and subscriber data for creators to gauge content performance. |
| Audience Insights | YouTube Analytics | Offers data on viewer demographics, allowing creators to tailor content to their audience. |
| Engagement Analysis | YouTube Analytics, VidIQ, TubeBuddy | Measures user engagement through likes, comments, and shares; advanced tools aid in SEO optimization. |
| Trend Monitoring | YouTube Trends | Identifies popular and trending content, assisting creators in staying relevant and optimizing strategies. |
| Monetization Data | YouTube Analytics, AdSense | Analyzes ad revenue, viewer interactions with ads, and overall monetization performance for creators. |

YouTube provides various performance metrics through its analytics platform to help content creators and channel owners understand how their videos and channels are performing. Here are some key performance metrics on YouTube:

| **Performance Metric** | **Definition** | **Use Case** |
| --- | --- | --- |
| Views | Total number of times a video has been watched. | Indicates the overall popularity of a video. |
| Watch Time | Total number of minutes viewers have spent watching a video or group of videos. | Reflects audience engagement and influences YouTube's algorithm for recommending videos. |
| Subscribers | Number of users who have subscribed to a channel. | Represents the channel's audience base and potential reach for future content. |
| Likes and Dislikes | Number of users who have clicked the "like" or "dislike" buttons on a video. | Measures viewer sentiment and engagement. |
| Comments | Number of comments left by viewers on a video. | Indicates audience interaction and provides insights into viewer opinions. |
| Click-Through Rate (CTR) | Percentage of viewers who clicked on a video after seeing the thumbnail and title. | Assesses the effectiveness of video titles and thumbnails in attracting clicks. |
| Average View Duration | Average amount of time viewers spend watching a video. | Helps creators understand which videos retain viewers for longer periods. |
| Top Traffic Sources | Identifies the platforms or external websites driving traffic to a YouTube video. | Informs promotional strategies and audience targeting. |
| Demographics | Information about the age, gender, and geographic location of a video's audience. | Assists in tailoring content to the target audience and refining marketing strategies. |
| Playback Locations | Shows where on the internet a video is being watched (YouTube, external websites, etc.). | Helps creators understand where their content is most popular and adjust distribution strategies. |
| Revenue from Ads | Income generated through advertisements displayed on a video. | Monetization metric for channels participating in the YouTube Partner Program. |

These performance metrics, available through YouTube Analytics, collectively provide comprehensive insights for content creators, helping them make informed decisions to improve their content strategy and audience engagement on the platform.

**B.2 Input and Output:**

Tabular representation of the social media analytics tools across different layers for Facebook, Twitter, and Instagram:

| **Layer** | **Facebook** | **Twitter** | **Instagram** |
| --- | --- | --- | --- |
| Text Analysis | Discovertext, Lexalytics, Voyant | Tweet Archivist, Twitonomy, LIWC | Discovertext, Lexalytics, Voyant |
| Actions | Lithium, Google Analytics | Lithium, Twitonomy, Google Analytics | Lithium, Google Analytics |
| Network | NodeXL, Netminer, Netlytic | NodeXL, Netminer, Netlytic, Mentionmapp | NodeXL, Netlytic |
| Mobile | Countly, Mixpanel, Google Mobile Analytics | Countly, Mixpanel, Google Mobile Analytics | Countly, Mixpanel, Google Mobile Analytics |
| Location | Google Fusion Table | Tweepsmap, Trendsmap, Followerwonk | Google Fusion Table, Trendsmap |
| Hyperlinks | Webometrics Analyst, VOSON | Webometrics Analyst, VOSON | Webometrics Analyst, VOSON |
| Research Engines | Google Trends | Google Trends | Google Trends |

**B.3 Observations and learning:**

We can observe that, these tools facilitate sentiment analysis, engagement tracking, influencer identification, mobile analytics, location insights, hyperlink analysis, and trend monitoring, optimizing strategies for diverse user interactions and content trends.

**B.4 Conclusion:**

In conclusion, the diverse set of performance metrics provided by YouTube Analytics offers content creators a comprehensive understanding of their video and channel performance. Utilizing these insights allows creators to optimize content, engage audiences effectively, and strategically navigate the evolving landscape of online video, fostering growth and success.

**B.5 Question of Curiosity**

**Q1. Why it is important for business managers to understand and mine social media data?**

ANS:

**1. Customer Insights:** Social media platforms provide a vast amount of data about customer preferences, opinions, and behaviors. Analyzing this data allows business managers to gain valuable insights into customer needs, preferences, and trends. This information can be used to make informed decisions regarding product development, marketing strategies, and customer engagement.

**2. Brand Monitoring and Reputation Management:** Social media is a key channel where customers discuss and share their experiences with brands. By monitoring social media data, business managers can keep track of brand mentions, customer feedback, and sentiment. This information is essential for managing and enhancing the company's reputation. Prompt responses to customer concerns can help address issues before they escalate.

**3. Competitive Analysis:** Social media data can be used to monitor the activities of competitors. By analyzing their social media presence, engagement, and customer feedback, business managers can identify strengths and weaknesses in their own strategies. This competitive intelligence can inform decision-making and help businesses stay agile in a dynamic market.

**4. Marketing Strategy Optimization:** Social media data provides insights into the effectiveness of marketing campaigns. By tracking metrics such as engagement rates, click-through rates, and conversion rates, managers can assess the success of their marketing efforts. This data can be used to refine and optimize marketing strategies for better results.

**5. Targeted Advertising:** Social media platforms offer powerful advertising tools that allow businesses to target specific demographics based on user data. Understanding social media data enables managers to create more targeted and personalized advertising campaigns, reaching the right audience with the right message.

**Q2. What is social media analytics, and how is it different from traditional business analytics?**

ANS:

| Aspect | Social Media Analytics | Traditional Business Analytics |
| --- | --- | --- |
| Data Source | Primarily social media platforms | Various sources, including internal databases |
| Type of Data | Unstructured (text, images, videos) | Structured (tables, databases) and unstructured |
| Focus | Social engagement metrics, sentiment analysis | Broad business metrics, financial performance |
| Real-Time Analysis | Often requires real-time or near-real-time | Periodic or batch processing, historical data |
| Sentiment Analysis | Integral part to understand user opinions | Used but not as prevalent |
| External Focus | Primarily external, brand perception | Internal and external business operations |

**Q3. What ethical issues should be considered when mining social media data?**

ANS:-

1**. Privacy Concerns:**

- Informed Consent: Ensure that individuals are aware of and consent to the collection and use of their data. Be transparent about the purpose and scope of data mining activities.

- Anonymity: Strive to anonymize data whenever possible to protect the privacy of individuals, especially when dealing with sensitive information.

**2. Data Ownership and Control:**

- Ownership Rights: Respect the ownership rights of individuals over their personal data. Avoid unauthorized use or exploitation of user-generated content.

- Data Portability: Consider users' rights to control and transfer their data. Provide options for users to manage their data and easily opt out.

**3. Accuracy and Fair Representation:**

- Data Accuracy: Ensure that the data being analyzed is accurate and up-to-date. Inaccurate information can lead to biased analysis and unfair consequences.

- Representation: Be cautious of biases in data that may disproportionately represent certain demographics or perspectives, potentially leading to unfair generalizations.

**4. User Empowerment:**

- Transparency: Maintain transparency about data collection methods, algorithms used, and the purpose of the analysis. Users should understand how their data is being used.

- User Control: Provide users with control over their data, allowing them to customize privacy settings, opt-out, or delete their information.

**5. Security Measures:**

- Data Security: Implement robust security measures to protect mined data from unauthorized access, breaches, or misuse.

- Data Storage: Ensure that stored data is kept securely, and only authorized personnel have access.

**6. Avoiding Discrimination:**

- Fair Treatment: Be aware of the potential for discrimination based on sensitive attributes (e.g., race, gender, religion) and take steps to avoid perpetuating biases in decision-making processes.

**Q4. Compare different social media analytics tools available in the market and explain their strengths and weakness.**

ANS:

| **Social Media Analytics Tools** | **Strengths** | **Weaknesses** |
| --- | --- | --- |
| Hootsuite | - Comprehensive social media management. | - Advanced analytics may require additional paid plans. - Interface can be overwhelming. |
| Buffer | - Simple and effective social media scheduling. | - Limited advanced analytics compared to other tools. - May not be suitable for large enterprises. |
| Sprout Social | - Robust social media management and analytics. | - Higher pricing compared to some competitors. - Comprehensive features may be overwhelming for smaller businesses. |
| Google Analytics | - Integrates with various social media platforms. | - Steeper learning curve for beginners. - May not offer as specialized social media insights as dedicated tools. |
| Socialbakers | - Competitive intelligence and benchmarking. | - Higher pricing for advanced features. - May have a steeper learning curve. |
| Brandwatch | - Specializes in social listening and sentiment analysis. | - Higher pricing for advanced features. - More suitable for larger enterprises. |
| Meltwater | - Comprehensive media monitoring, including social media. | - Higher pricing for full-feature access. - Some users may find the interface complex. |