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I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.

**Learner declaration**

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**Facebook**

1. **Name of Tool / Tools**

- Facebook Insights

-Facebook Ads Manager

-Sprout Social

2.  **Company using the Tool functionality**

Facebook Insights:

- Audience Demographics: Provides data on the demographics of your Facebook page or group's audience, including age, gender, location, and language.

- Engagement Metrics: Offers insights into user engagement, such as likes, comments, and shares on your posts, helping you understand which content resonates with your audience.

- Page Views and Reach: Tracks the number of people who have seen your content and the overall reach of your posts.

- Page Performance: Analyzes the performance of your Facebook page, including key metrics like page likes, follows, and unfollows.

- Post Timing: Suggests the best times to post content based on when your audience is most active.

- Competitive Analysis: Allows you to compare your page's performance to that of competitors or similar pages.

Facebook Ads Manager:

- Ad Campaign Management: Enables the creation, management, and optimization of Facebook ad campaigns, including selecting ad objectives, budgeting, and scheduling.

- Ad Performance Analytics: Provides detailed data on the performance of ad campaigns, including click-through rates, conversion tracking, and ad engagement.

- Audience Insights: Offers data about the demographics, interests, and behaviors of the audience that interacts with your ads.

- Ad Split Testing: Allows A/B testing of different ad creatives, audiences, and placements to determine what works best.

- Custom Reporting: Lets advertisers create customized reports to track specific KPIs and measure the success of ad campaigns.

- Attribution Modeling: Helps analyze how different touchpoints contribute to conversions and sales.

Sprout Social(for Facebook Analytics):

- Social Media Management: Provides a dashboard for managing Facebook posts and scheduling content.

- Audience Engagement Monitoring: Tracks user engagement with your Facebook posts and allows you to respond to comments and messages within the platform.

- Content Performance Analysis: Offers insights into the performance of your Facebook content, including post engagement, clicks, and impressions.

- Competitor Analysis: Allows you to compare your Facebook performance with that of your competitors.

- Audience Reports: Provides demographic and behavioral data about your Facebook audience.

- Team Collaboration: Facilitates team collaboration by allowing multiple users to manage and analyze Facebook accounts within the tool.

3. **Benefits of  Tool**

Facebook Insights:

- Audience Understanding: Facebook Insights provides valuable demographic information about your audience, helping you tailor your content to better meet their preferences.

- Content Optimization: By tracking post engagement, you can identify which content resonates the most with your audience and adjust your strategy accordingly.

- Scheduling Efficiency: Insights data can help you schedule posts at the most optimal times when your audience is most active.

- Competitive Analysis: You can gain a competitive edge by comparing your page's performance with competitors, identifying opportunities for improvement.

Facebook Ads Manager:

- Ad Campaign Control: You have complete control over ad campaigns, allowing you to adjust budgets, schedules, and creative elements to meet your specific objectives.

- Performance Tracking: Detailed analytics let you monitor the success of your ad campaigns, helping you optimize for better results and return on investment.

- Audience Insights: Understand who is engaging with your ads, enabling you to target the right demographics for better ad performance.

- A/B Testing: Test different ad variations to determine the most effective strategies for reaching your target audience.

- Attribution Modeling: Understand the customer journey and the impact of different touchpoints on conversions, helping refine your marketing strategy.

Sprout Social (for Facebook Analytics):

- Efficient Social Media Management: Simplify content management by scheduling and analyzing posts in one platform.

- Engagement Monitoring: Stay on top of user interactions, comments, and messages, making it easier to engage with your audience.

- Data-Driven Content Strategy: Understand what type of content is working best and make data-driven decisions to improve your social media strategy.

- Competitor Benchmarking: Compare your performance to competitors to gain insights and stay competitive in your industry.

- Audience Insights: Better understand your audience, their behaviors, and preferences for more effective content creation.

- Team Collaboration: Collaborate with team members and efficiently manage multiple social media accounts within one tool.

4. **Before using the tool and after using the too**l : 1-3 lines explanation according  to you.

Before Using the Tool:

1. Limited Understanding: Users often have limited insight into their audience's demographics, behavior, and preferences.

2. Manual Tracking: Data and metrics tracking is done manually, which can be time-consuming and less accurate.

3. Ad Hoc Decision-Making: Decisions related to content creation and ad campaigns are often made based on intuition or limited data.

4. Lack of Competitive Insight: Users may struggle to assess their performance compared to competitors.

After Using the Tool:

1. In-Depth Audience Insights: Users gain a deeper understanding of their audience's demographics, behaviors, and preferences.

2. Automated Data Tracking: Tools automate data collection and provide real-time analytics, saving time and ensuring accurate data.

3. Data-Informed Decision-Making: Users can make data-informed decisions about content creation, ad campaigns, and posting schedules.

4. Competitive Benchmarking: Users can compare their performance with competitors, identifying strengths and weaknesses for improved competitiveness.

**Whatsapp**

1. **Name of Tool / Tools**

1. Business Intelligence (BI) Tools: WhatsApp could utilize BI tools like Tableau, Power BI, or Looker to create reports and interactive dashboards for analyzing user data and trends.

2. Data Warehousing Solutions: Data warehousing platforms such as Amazon Redshift, Google BigQuery, or Snowflake can be used to store and manage large volumes of data for analysis.

3. ETL (Extract, Transform, Load) Tools: Tools like Apache Nifi or Talend are used to extract data from various sources, transform it into a usable format, and load it into a data warehouse for analysis.

4. Statistical Analysis Software: Software like R, SAS, or IBM SPSS can be used for advanced statistical analysis and modeling.

5. SQL for Data Analysis: Structured Query Language (SQL) is a fundamental tool for querying and analyzing data stored in databases.

6. Data Visualization Tools: Tools like Tableau, Looker, or even open-source options like matplotlib and seaborn in Python are used to create data visualizations for better understanding.

7. Customer Analytics and User Behavior Analytics Tools: Specialized tools like Mixpanel, Amplitude, or Google Analytics could be used to understand user behavior and customer engagement.

8. A/B Testing Platforms: Tools like Optimizely or Google Optimize may be used to run A/B tests to analyze the impact of changes on user behavior.

2.  **Company using the Tool Functionality**

Business Intelligence (BI) Tools:

- Data Visualization: BI tools help in creating interactive charts, graphs, and dashboards for visualizing and summarizing data.

- Report Generation: Users can generate reports that provide insights into user behavior, engagement, and trends.

- Data Exploration: BI tools allow users to explore data, apply filters, and drill down into specific datasets for deeper analysis.

- Performance Tracking: Users can monitor key performance indicators (KPIs) to assess the impact of changes and trends.

- Ad Hoc Querying: Allows users to perform ad hoc queries on the data to answer specific questions.

Data Warehousing Solutions:

- Data Storage: Data warehousing solutions provide a structured environment for storing and managing large volumes of data efficiently.

- Data Integration: Data from various sources can be integrated into a centralized repository for analysis.

- Scalability: They offer the ability to scale and handle increasing data volumes.

- Query Optimization: Data warehousing systems optimize queries to provide faster access to data for analysis.

ETL (Extract, Transform, Load) Tools:

- Data Extraction: ETL tools extract data from various sources such as databases, applications, and files.

- Data Transformation: Data is cleaned, structured, and transformed into a usable format.

- Data Loading: Transformed data is loaded into a data warehouse or analytical databases for analysis.

Statistical Analysis Software:

- Statistical Analysis: These tools perform complex statistical analyses to identify patterns and trends in the data.

- Hypothesis Testing: Users can test hypotheses and draw conclusions based on data.

- Predictive Modeling: They allow for building predictive models based on historical data.

SQL for Data Analysis:

- Data Querying: SQL is used to query databases and retrieve specific data subsets for analysis.

- Data Transformation: SQL can be used to perform basic data transformations and calculations.

- Data Aggregation: Users can aggregate data using SQL functions like SUM, AVG, COUNT, etc.

Data Visualization Tools:

- Chart Creation: Data visualization tools help in creating various types of charts, graphs, and visual representations of data.

- Interactive Dashboards: Users can build interactive dashboards that provide real-time insights.

- Data Storytelling: Visualizations can be used to tell a data-driven story.

Customer Analytics and User Behavior Analytics Tools:

- User Segmentation: Allows for grouping users based on behavior and demographics.

- Conversion Tracking: Measures how users progress through the user journey and where they convert.

- Funnel Analysis: Analyzes user drop-off points in a conversion process.

- Behavioral Analysis: Provides insights into how users interact with the platform.

A/B Testing Platforms:

- Experiment Setup: Enables the setup of A/B tests to compare the performance of different elements or features.

- Data Collection: Collects data on user behavior and interactions during the test.

- Statistical Analysis: Determines the statistical significance of test results to make informed decisions.

3. **Benefits of  Tool**

Business Intelligence (BI) Tools

- Simplify data visualization and reporting.

- Provide insights into user behavior and trends.

- Facilitate ad hoc data analysis.

- Improve decision-making with real-time performance tracking.

- Support efficient querying and reporting.

Data Warehousing Solutions:

- Efficiently store and manage large volumes of data.

- Integrate data from various sources into a centralized repository.

- Scale to accommodate growing data volumes.

- Optimize query performance for faster data access.

ETL (Extract, Transform, Load) Tools:

- Streamline data extraction, transformation, and loading processes.

- Ensure data quality by cleaning and structuring data.

- Automate data loading into databases for analysis.

Statistical Analysis Software:

- Perform complex statistical analyses to identify patterns.

- Test hypotheses and draw data-driven conclusions.

- Create predictive models based on historical data.

SQL for Data Analysis:

- Retrieve specific data subsets for analysis.

- Perform data transformations and calculations.

- Aggregate data using SQL functions for insights.

Data Visualization Tools:

- Create various chart types and visual representations of data.

- Build interactive dashboards for real-time insights.

- Tell data-driven stories through visualizations.

Customer Analytics and User Behavior Analytics Tools:

- Segment users based on behavior and demographics.

- Track user conversions and engagement.

- Analyze conversion funnels and user interactions.

A/B Testing Platforms:

- Set up experiments to compare the performance of elements or features.

- Collect data on user behavior during tests.

- Determine statistical significance for informed decisions.

4. **Before using the tool and after using the too**l

Before Using the Tool:

1. Limited Data Insights: Without data analytical tools, users may have limited access to meaningful insights and trends in their data. They might struggle to make informed decisions.

2. Manual Data Processing: Data processing and analysis may involve manual, time-consuming tasks, such as cleaning and formatting data.

3. Reduced Efficiency: Users may experience inefficiencies in data analysis, as they cannot quickly access and visualize critical information.

4. Potential for Errors: Manual data analysis carries a higher risk of errors and inaccuracies in reporting and decision-making.

After Using the Tool:

1. Enhanced Data Insights: Data analytical tools provide users with deeper insights into their data, revealing patterns, trends, and actionable information.

2. Automated Data Processing: These tools automate data processing tasks, reducing the need for manual work and improving accuracy.

3. Efficient Data Analysis: Users can efficiently access and analyze data, saving time and resources.

4. Informed Decision-Making: Data analytical tools enable users to make data-driven decisions, resulting in improved strategies and outcomes.

In summary, data analytical tools transform the data analysis process by providing deeper insights, automating tasks, increasing efficiency, and empowering data-driven decision-making. These tools play a crucial role in optimizing business and operational processes.

**Youtube**

1. **Name of Tool / Tools**

1. YouTube Analytics

2. Google Analytics

3. YouTube Data API

4. Google Data Studio

5. BigQuery

6. YouTube API Services

7. YouTube Studio

8. Third-party analytics tools

2.  **Company using the Tool functionality**

1. YouTube Analytics:

- Provides comprehensive statistics about your channel's performance.

- Offers data on video views, watch time, traffic sources, and audience demographics.

- Helps you understand viewer engagement and retention.

2. Google Analytics:

- Tracks website traffic and user behavior, including visitors referred from YouTube videos.

- Provides data on website traffic sources, user interactions, and conversions.

3. YouTube Data API:

- Allows programmatic access to YouTube data, enabling custom data extraction and analysis.

- Retrieves video information, channel statistics, comments, and more.

- Ideal for automation and integration with other data systems.

4. Google Data Studio:

- Creates interactive and shareable data dashboards and reports.

- Connects to various data sources, including YouTube Analytics, and provides visualization tools for data analysis.

5. Google BigQuery:

- A data warehouse for storing and analyzing large datasets.

- Enables advanced data analysis, including running SQL queries on YouTube Analytics data exported to BigQuery.

6. YouTube API Services:

- YouTube Reporting API: Access reports related to royalties, revenue, and content rights management.

- YouTube Content ID API: Manages copyrighted content on YouTube, useful for content owners and rights management.

7. YouTube Studio:

- A dashboard for content creators to manage their YouTube channels.

- Provides tools for video management, optimization, and insights into video performance.

8. Third-party analytics tools:

- Tools like Tubular Labs, Social Blade, and VidIQ offer various analytics features, including competitor analysis, keyword research, and trend tracking.

- May provide unique insights and features tailored to YouTube data analysis.

3. **Benefits of  Tool**

1. YouTube Analytics:

- User-Friendly: It's built directly into YouTube and is user-friendly, making it accessible to all content creators.

- Customized Insights: Provides customized insights into your channel's performance, allowing you to understand your audience better and tailor your content accordingly.

- Real-time Data: Offers real-time data on video views, watch time, and engagement metrics, which can help you track the performance of your latest videos.

- Demographic Data: Provides demographic information about your audience, such as age, gender, and location.

2. Google Analytics:

- Website Tracking: Helps you track the traffic coming to your website from YouTube videos, providing insights into how effective your video marketing efforts are in driving website visits.

- Conversion Tracking: Allows you to track conversions on your website, helping you understand the impact of YouTube referrals on your business goals.

3. YouTube Data API:

- Custom Data Access: Gives you the flexibility to programmatically access YouTube data and create custom data extraction processes.

- Automated Analysis: Enables automation of data collection and analysis, saving time and reducing manual effort.

- Integration: Allows integration with other data systems and databases for cross-platform analysis.

4. Google Data Studio:

- Interactive Reports: Creates interactive and visually appealing reports that are easy to share and understand.

- Data Integration: Connects to various data sources, including YouTube Analytics, making it a versatile tool for consolidating and visualizing data from different platforms.

- Real-time Dashboards: Provides real-time data updates, helping you keep track of your YouTube channel's performance.

5. Google BigQuery:

- Scalability: Handles large datasets efficiently and allows for complex data analysis.

- SQL Queries: Enables data analysts to run SQL queries to perform in-depth analysis on YouTube data.

- Data Warehousing: Serves as a robust data warehousing solution for storing and managing YouTube Analytics data.

6. YouTube API Services:

- Royalty and Revenue Management: YouTube Reporting API provides essential data for content owners and partners to manage royalties and revenue.

- Content Rights Management: YouTube Content ID API is crucial for content owners to protect their copyrighted material on the platform.

7. YouTube Studio:

- Channel Management: Offers tools for video uploading, optimization, and channel management in one place.

- \*\*Performance Insights\*\*: Provides insights into video performance and audience engagement, helping creators make informed decisions.

8. Third-party analytics tools:

- Competitor Analysis: Third-party tools can provide insights into your competitors' performance, helping you stay competitive.

- Keyword Research: Offer keyword research and optimization suggestions to improve video discoverability.

- Trend Tracking: Keep you updated on current trends and topics within your niche.

4. **Before using the tool and after using the too**l

Before Using the Tool:

1. Limited Data: Before using these tools, you may have access to only basic YouTube statistics and insights provided by YouTube Analytics within the YouTube Studio dashboard.

2. Manual Effort: Data analysis may involve manual data collection, such as copying and pasting information into spreadsheets, and may require more time and effort.

3. Limited Visibility: You may have limited visibility into how your YouTube videos are driving traffic to your website and the impact on your business goals.

4. Basic Reports: Without specialized tools, you might rely on basic, manually created reports to track your YouTube channel's performance.

After Using the Tool:

1. Comprehensive Data: With the tools mentioned, you gain access to comprehensive data related to your YouTube channel's performance, demographics, engagement, and more.

2. Automation: Many of these tools enable automation in data collection and analysis, reducing manual effort and allowing for real-time or scheduled data updates.

3. Cross-Platform Insights: You can track how your YouTube videos are driving traffic to your website, and Google Analytics allows you to see detailed user behavior and conversions.

4. Interactive Reports: Google Data Studio helps you create interactive and visually appealing reports, making it easier to understand and share insights with your team or clients.

5. Advanced Analysis: Google BigQuery allows you to perform advanced data analysis by running SQL queries on YouTube data, enabling deeper insights and trend identification.

6. Customization: You can customize data extraction and analysis processes to suit your specific needs using the YouTube Data API and other tools.

7. Content Rights Management: If you're a content owner, YouTube API Services offer tools for royalty and revenue management as well as content rights protection.

8. Competitor Analysis: Third-party analytics tools provide insights into competitor performance, helping you make strategic decisions.