Experiment 2 : Web Analytics

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AIM : To study a Web Analytics Tool

Theory:
1. What is Web Analytics?

Web Analytics is the process of collecting, measuring, analyzing, and reporting web data to understand and optimize web usage. It helps businesses track user behavior, website performance, and marketing effectiveness.

Key Functions of Web Analytics:

1. Traffic Analysis: Tracks visitors, page views, bounce rates, and session durations.
2. User Behavior Tracking: Monitors user interactions like clicks, scrolls, and navigation paths.
3. Conversion Tracking: Measures how users complete desired actions (e.g., purchases, sign-ups).
4. SEO & Performance Optimization: Helps identify issues affecting site speed, ranking, and user engagement.
5. Marketing Effectiveness: Evaluates campaign performance (e.g., PPC ads, email marketing, social media).

Types of Web Analytics:

1. On-Site Analytics: Measures website activity (e.g., Google Analytics, Adobe Analytics).

2. Off-Site Analytics: Tracks audience behavior across the internet (e.g., social media insights).

2. Web Analytics Tools and Their Features:
There are several web analytics tools available, each with its features. Some prominent ones include:

a. Google Analytics:
  - Features:

  ● Real-Time Data Tracking – Monitors live user activity.
  ● Audience Insights – Provides demographic, location, and device data.
  ● Behavior Flow Analysis – Tracks how users navigate through your site.
  ● Traffic Source Analysis – Identifies where visitors come from (organic, paid, social, etc.).
  ● Goal & Conversion Tracking – Measures user actions like sign-ups and purchases.
  ● E-commerce Tracking – Tracks revenue, transactions, and product performance.
  ● Event Tracking – Monitors clicks, video plays, form submissions, etc.
  ● Custom Reports & Dashboards – Allows personalized data visualization.

b. Adobe Analytics:
  - Features:

  ● Advanced Segmentation – Deep insights into user segments.
  ● Real-Time Data Processing – Provides instant analytics updates.
  ● Attribution Modeling – Measures marketing effectiveness across channels.
  ● AI-Powered Insights – Uses machine learning for predictive analytics.
  ● Customer Journey Mapping – Tracks multi-channel user interactions.
  ● Integration with Adobe Experience Cloud – Connects with other Adobe marketing tools.
  ● Custom Metrics & Reports – Highly customizable dashboards.

c. Hotjar:
   - Features:

   ● Heatmaps – Visual representation of where users click, scroll, and move.
   ● Session Recordings – Records user interactions for detailed analysis.
   ● Surveys & Feedback Forms – Collects direct user feedback.
   ● Conversion Funnel Analysis – Identifies drop-off points in the user journey.
   ● User Polls – Gathers real-time visitor opinions.
   ● Form Analysis – Tracks user behavior on web forms to improve conversions.

d. Matomo (formerly Piwik):
   - Features:

   ● Privacy-Focused Analytics – 100% data ownership, GDPR-compliant.
   ● Real-Time Visitor Tracking – Monitors user activity live.
   ● Custom Dashboards & Reports – Fully customizable analytics.
   ● Heatmaps & Session Recordings – Tracks user engagement visually.
   ● SEO & Keyword Tracking – Monitors search engine rankings.
   ● E-commerce & Conversion Tracking – Measures sales and goal completions.
   ● Self-Hosting Option – Can be hosted on your own servers.

e. Crazy Egg:
   - Features:

   ● Heatmaps & Scrollmaps – Shows where users click and how far they scroll.
   ● A/B Testing – Tests different page variations for better conversions.
   ● User Session Recordings – Captures visitor behavior in real-time.
   ● Overlay Reports – Displays data directly on your web pages.
   ● Confetti Reports – Segments user interactions based on traffic sources.
   ● Error Tracking – Identifies broken links and usability issues.

3. Why is it Important to Learn Web Analytics?

Web analytics plays a crucial role in understanding user behavior, optimizing website performance, and improving business outcomes. Here are some key reasons why learning web analytics is important:

1. Understand User Behavior

- Helps track how visitors interact with your website.
- Identifies which pages attract the most engagement and which ones users leave quickly.
- Analyzes visitor demographics, locations, devices, and traffic sources.

2. Improve Website Performance

- Detects slow-loading pages and technical issues.
- Monitors bounce rates and identifies reasons why users leave the site.
- Helps enhance user experience (UX) based on data insights.

3. Boost Marketing Effectiveness

- Measures the success of marketing campaigns (SEO, PPC, email, social media).
- Tracks conversions and ROI from different marketing channels.
- Helps in optimizing ad spending by identifying high-performing campaigns.

4. Optimize Conversion Rates

- Identifies drop-off points in the sales or sign-up funnel.
- Tests different strategies (A/B testing) to increase conversions.
- Improves call-to-action (CTA) effectiveness based on user interactions.

5. Data-Driven Decision Making

- Provides insights that help in making informed business decisions.
- Reduces guesswork and reliance on assumptions.
- Helps businesses adapt strategies based on real-time data.

6. Competitive Advantage

- Keeps track of competitors' digital strategies through benchmarking.
- Helps businesses stay ahead by analyzing industry trends.
- Allows companies to refine their strategies based on market demands.

7. Career Opportunities

- High demand for professionals skilled in web analytics.
- Useful for roles like digital marketing analyst, SEO specialist, data analyst, and business intelligence expert.
- Helps freelancers and entrepreneurs optimize their online businesses.

8. Personalization & Customer Retention

- Enables businesses to personalize user experiences based on behavior.
- Helps in customer segmentation and targeted marketing.
- Enhances customer satisfaction and retention by offering relevant content.

4. Key Performance Indicators (KPIs) for Your Website:

Link to website: https://sonamcc.github.io/Sonam-tail-game/
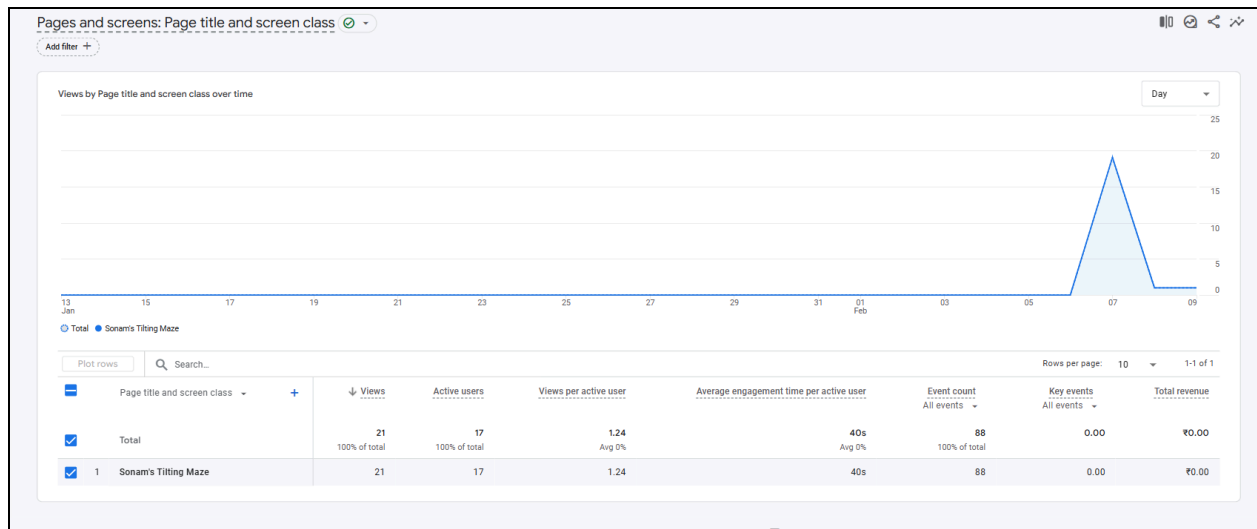Github Link : https://github.com/sonamcc/webx2

1. show landing page of Google Analytics, where it shows the basic analytics of website like users, event counts (like scroll, click), conversion rate & new users.
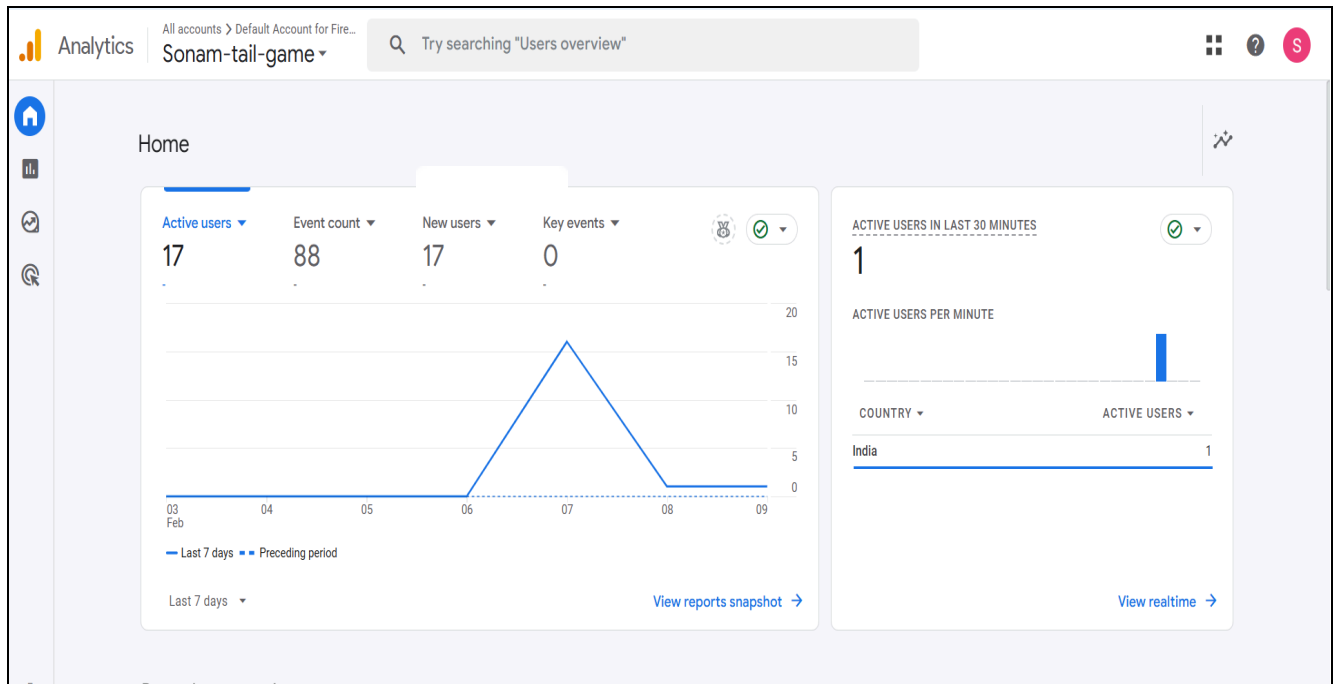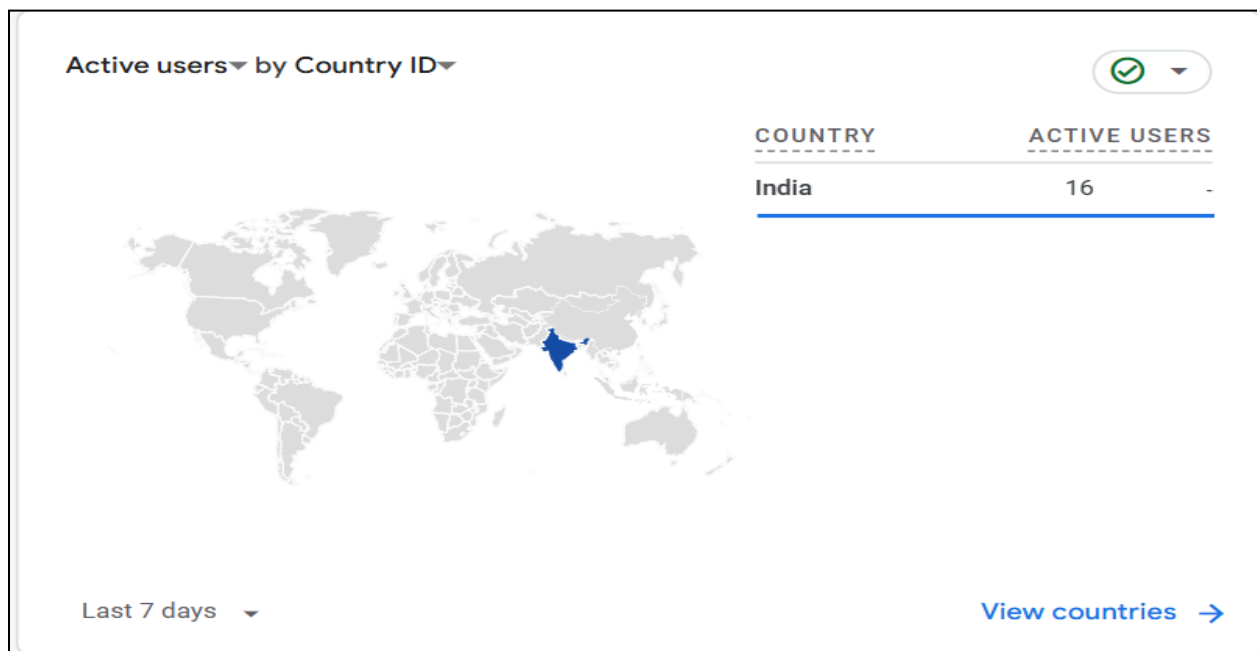
Pages and screens: Page title and screen class

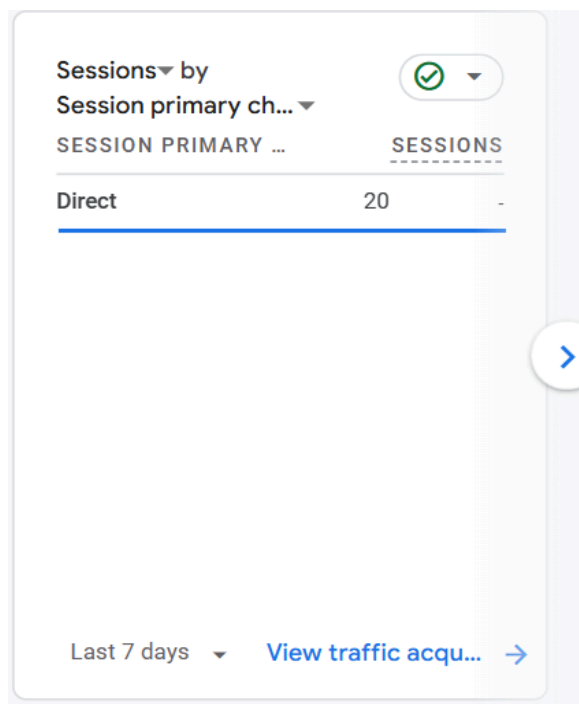This gives the analysis of traffic on each page of website.
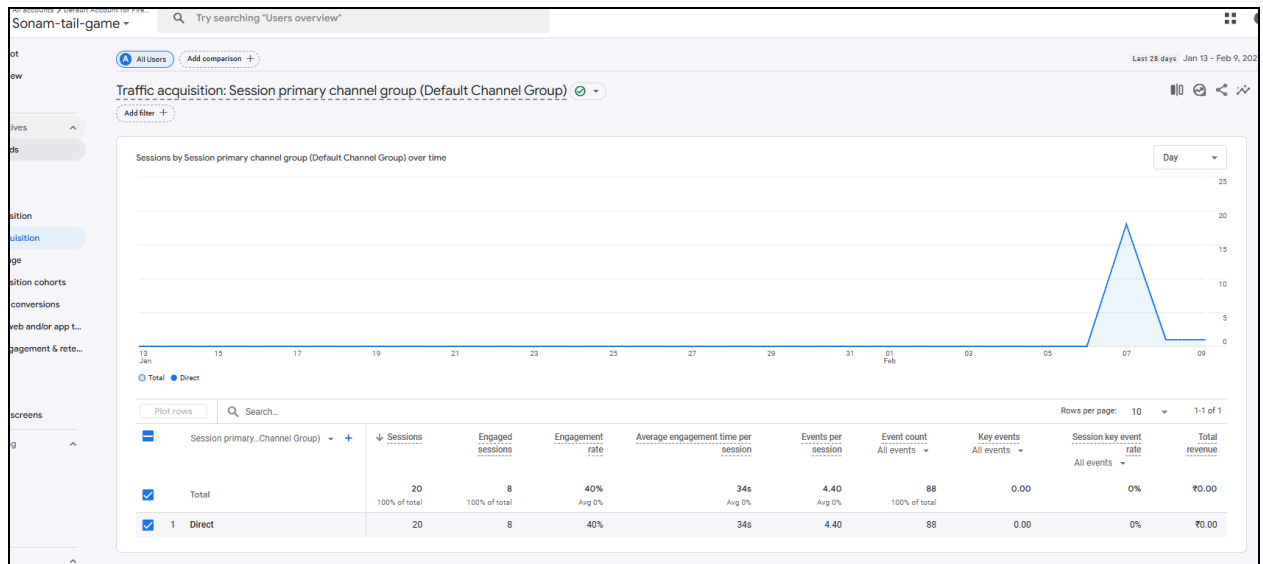
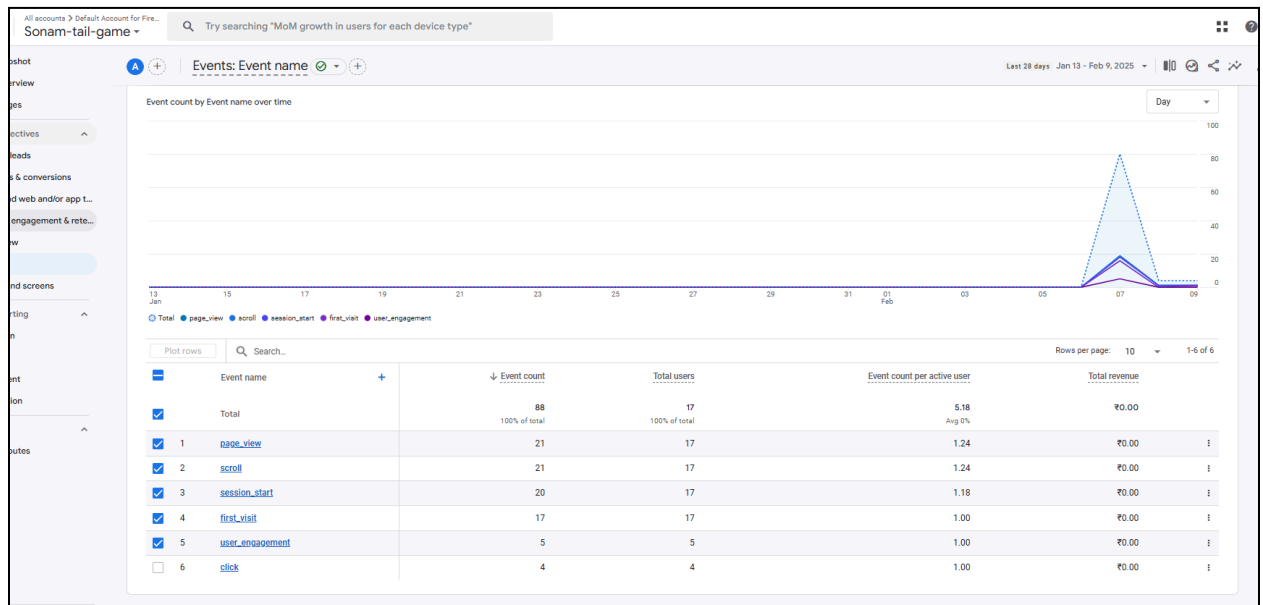2. Show demographic information of user base

The above picture gives us demographic information from where our user base is.

3. shows how my website url is visited 'direct' if it is directly searched and visited 'referal' if it redirected through any third party website.

4. shows what all events have been done by users on website for example:53 people viewed the page.
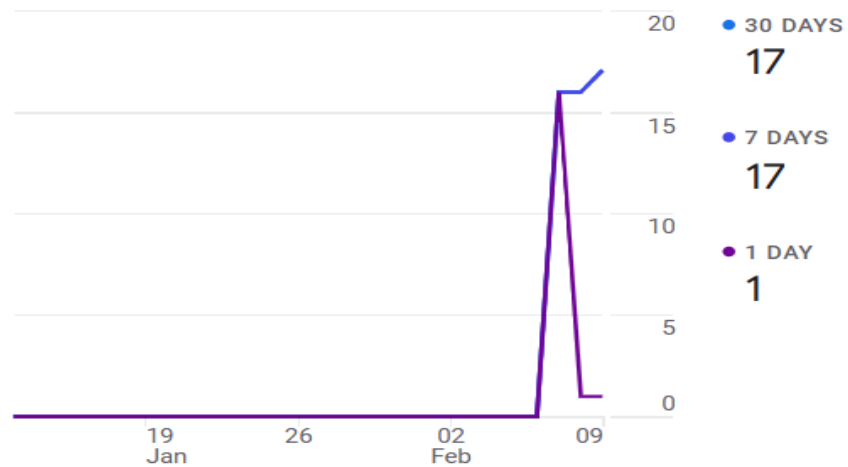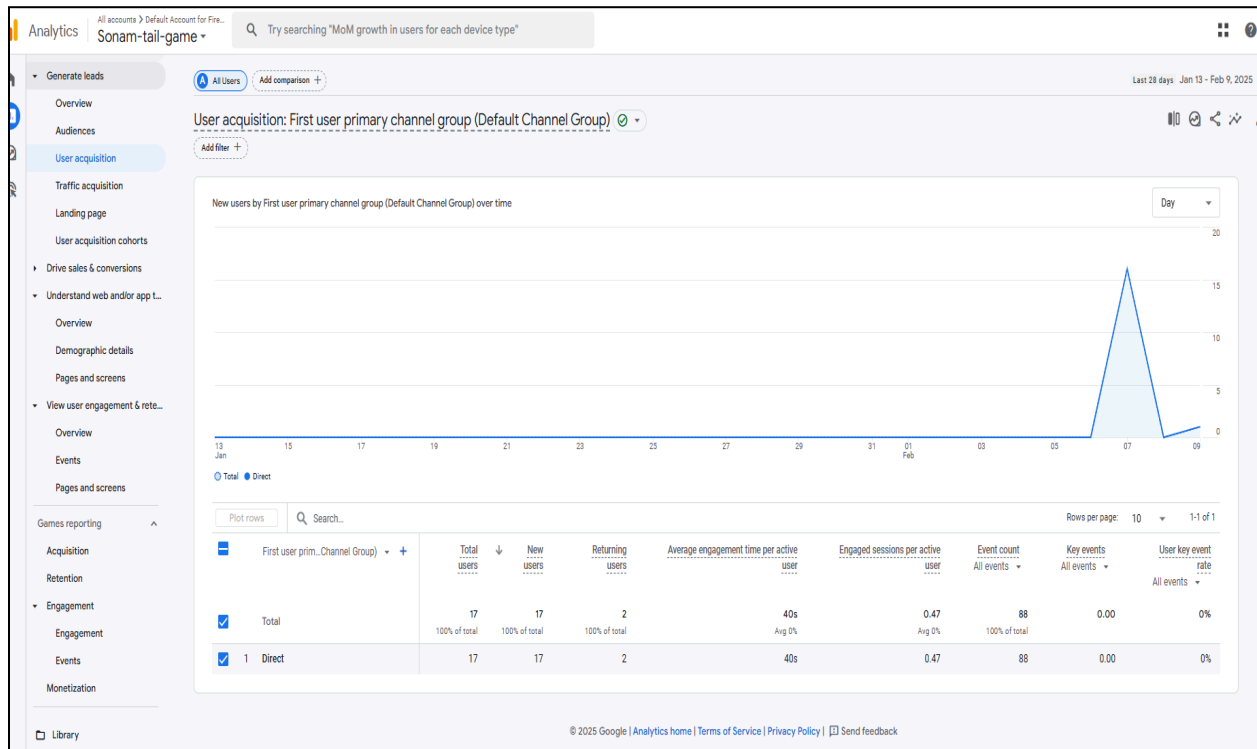
Event count by Event name ⊘ ▼

EVENT NAME	EVENT COUNT
page_view	21
scroll	21
session_start	20
first_visit	17
user_engagement	5
click	4

View events →

User activity over time ⊘ ▼

- 30 DAYS
  17
- 7 DAYS
  17
- 1 DAY
  1

19 Jan   26   02 Feb   09

5. Show the user activity over the past 7 days, after adding Google Analytics script to website.

This shows the complete details about the engagement session, avg engagement time, event counts, etc.

CONCLUSION :

In this experiment, we studied Web Analytics, its importance, and key tools like Google Analytics, Adobe Analytics, Hotjar, Matomo, and Crazy Egg. We explored their features, including real-time tracking, user behavior analysis, conversion tracking, and performance optimization. We also learned about Key Performance Indicators (KPIs) such as page views, bounce rate, and conversion rate, which help measure website success. By analyzing user data, we can make data-driven decisions to enhance website performance and user experience.