Google Analytics provides a vast array of metrics and dimensions, helping analyze and understand website performance across various aspects. Here's a breakdown of some of the key **metrics** (quantitative data) and **dimensions** (qualitative data) available in Google Analytics:

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1. Audience Metrics and Dimensions

- **Metrics**:
    - **Users**: Total number of unique visitors to the site.
    - **New Users**: Number of first-time visitors during the selected period.
    - **Sessions**: Total visits, including repeat visitors.
    - **Pageviews**: Total number of pages viewed (includes repeat views).
    - **Average Session Duration**: Average time spent per session.
    - **Bounce Rate**: Percentage of visitors who leave after viewing only one page.
    - **Session Frequency**: Average number of sessions per user.
- **Dimensions**:
    - **Age**: Age range of users.
    - **Gender**: Gender distribution of users.
    - **Location**: Geographic data, including country, city, and language.
    - **Device**: Information on devices used (desktop, mobile, tablet).
    - **Operating System**: Operating systems of users (iOS, Android, Windows, etc.).

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2. Acquisition Metrics and Dimensions

- **Metrics**:
    - **Sessions by Channel**: Traffic coming from channels like organic search, paid search, direct, referral, social, email, etc.
    - **New Users by Source/Medium**: Count of new users for each traffic source (e.g., Google, direct, Facebook).
    - **Goal Completions**: Count of goal completions (like signing up or filling out a form) for each traffic source.
    - **Conversion Rate**: Percentage of sessions that led to a goal completion.
- **Dimensions**:
    - **Source**: Origin of traffic (Google, Facebook, etc.).
    - **Medium**: Type of traffic (organic, referral, paid, etc.).
    - **Campaign**: Name of the marketing campaign (e.g., Summer Sale).
    - **Keyword**: Keywords used in search engines that led to the site.

- **Referral Path**: Specific URL paths that referred users to the site.

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3. Behavior Metrics and Dimensions

- **Metrics**:
  - **Pageviews**: Total views for individual pages.
  - **Unique Pageviews**: Counts a pageview once per session.
  - **Average Time on Page**: Average time users spend on a page.
  - **Exit Rate**: Percentage of users who left the site from a specific page.
  - **Pages per Session**: Average number of pages viewed per session.
- **Dimensions**:
  - **Page Title**: Title of the page viewed.
  - **Landing Page**: First page visited in a session.
  - **Exit Page**: Last page visited before leaving the site.
  - **Content Group**: Groups pages based on content themes (e.g., blogs, product pages).
  - **Site Search Term**: Terms searched within the site (if site search is enabled).

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4. Conversion Metrics and Dimensions

- **Metrics**:
  - **Goal Completions**: Total number of times users complete a goal (like a sign-up or purchase).
  - **Goal Value**: Monetary value assigned to goal completions (if applicable).
  - **Conversion Rate**: Percentage of sessions that result in a goal completion.
  - **Transactions**: Number of completed purchases.
  - **Revenue**: Total revenue generated (useful for e-commerce tracking).
  - **E-commerce Conversion Rate**: Percentage of sessions that resulted in a purchase.
- **Dimensions**:
  - **Goal Completion Location**: Page where the goal completion occurred.
  - **Product Category**: Category of products sold (e-commerce).
  - **Transaction ID**: Unique identifier for each transaction.
  - **Coupon Code**: Discount code used during the transaction.

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5. Real-Time Metrics and Dimensions

- **Metrics**:
    - **Active Users**: Current number of users on the site.
    - **Pageviews per Minute/Second**: Number of pageviews in real-time.
    - **Top Active Pages**: List of pages currently being viewed.
    - **Conversions**: Real-time tracking of goal completions.
- **Dimensions**:
    - **Location**: Real-time user location.
    - **Traffic Source**: Real-time traffic sources (e.g., Google, direct).
    - **Content**: Specific page users are viewing in real-time.

Summary

These metrics and dimensions provide insights into who the audience is, where they're coming from, what content engages them, and how well the site is achieving its goals. By analyzing these, you can make informed decisions to improve your website's performance, increase engagement, and drive more conversions.

Each table would represent an area like *Audience*, *Acquisition*, *Behavior*, and *Conversions*. The tables will show how they are related through common keys like Session_ID or User_ID.

Here's an outline of tables and their relationships:

1. Users Table

Contains user-related data (audience details).

Column	Data Type	Description
User_ID	INTEGER	Unique identifier for each user.
Age	VARCHAR(10)	Age group (e.g., "25-34").
Gender	VARCHAR(10)	Gender (e.g., "Male", "Female").
Location	VARCHAR(50)	Geographic location (e.g., "USA").
Device	VARCHAR(20)	Device type (e.g., "Mobile").
Operating_System	VARCHAR(20)	Operating system (e.g., "iOS").

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2. Sessions Table

Contains information on user sessions, with User_ID linking to the Users table.

Column	Data Type	Description
Session_ID	INTEGER	Unique session identifier.
User_ID	INTEGER	Links to User_ID in the Users table.
Start_Time	TIMESTAMP	Session start time.
End_Time	TIMESTAMP	Session end time.
Session_Duration	INTEGER	Total duration of the session (in seconds).
Bounce_Rate	DECIMAL(5,2)	Bounce rate of the session.
Pages_per_Session	INTEGER	Number of pages visited per session.

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3. Traffic Sources Table

Contains acquisition data, with Session_ID linking to Sessions.

Column	Data Type	Description
Source_ID	INTEGER	Unique identifier for traffic source.
Session_ID	INTEGER	Links to Session_ID in the Sessions table.
Source	VARCHAR(50)	Traffic source (e.g., "Google").
Medium	VARCHAR(50)	Medium type (e.g., "Organic", "Paid").
Campaign	VARCHAR(50)	Campaign name (e.g., "Winter Sale").
Keyword	VARCHAR(50)	Keyword used in search.

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4. Pages Table

Contains details of pages viewed during sessions, with Session_ID linking to Sessions.

Column	Data Type	Description
Page_ID	INTEGER	Unique identifier for each page.
Session_ID	INTEGER	Links to Session_ID in the Sessions table.
Page_URL	VARCHAR(255)	URL of the page.

Column	Data Type	Description
Page_Title	VARCHAR(100)	Title of the page.
Pageviews	INTEGER	Number of pageviews for this page.
Average_Time_on_Page	INTEGER	Average time spent on this page (seconds).
Exit_Rate	DECIMAL(5,2)	Percentage of users who exit on this page.

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5. Conversions Table

Tracks conversion actions, linked to sessions for context.

Column	Data Type	Description
Conversion_ID	INTEGER	Unique identifier for each conversion.
Session_ID	INTEGER	Links to Session_ID in the Sessions table.
Goal_Type	VARCHAR(50)	Type of goal achieved (e.g., "Sign-up").
Goal_Completion	BOOLEAN	Whether the goal was completed (true/false).
Goal_Value	DECIMAL(10,2)	Monetary value assigned to the goal.
Transaction_ID	INTEGER	Transaction ID for purchases (if any).

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6. Transactions Table

Provides detailed transaction data for e-commerce.

Column	Data Type	Description
Transaction_ID	INTEGER	Unique identifier for each transaction.
Conversion_ID	INTEGER	Links to Conversion_ID in the Conversions table.
Revenue	DECIMAL(10,2)	Revenue generated from the transaction.
Product_ID	INTEGER	ID of the product sold.
Quantity	INTEGER	Quantity of the product sold.
Coupon_Code	VARCHAR(20)	Coupon code used in the transaction.

Relationships

- **Users** ↔ **Sessions**: Each session is tied to a user through User_ID.
- **Sessions** ↔ **Traffic Sources**: Each session has a traffic source, connected by Session_ID.
- **Sessions** ↔ **Pages**: Each session has multiple pages viewed, connected by Session_ID.
- **Sessions** ↔ **Conversions**: Each conversion is related to a session, connected by Session_ID.
- **Conversions** ↔ **Transactions**: Each transaction (if it's e-commerce) is tied to a conversion through Conversion_ID.

This relational structure allows for detailed analysis of user behavior from acquisition to conversion, while supporting the extraction of specific metrics and dimensions for further insights.