Detailed Summary of Website Data Analysis

- Dataset Overview
 - Total Records: 3,183 website session entries
 - Columns Include:
 - Channel Group
 - Date and Hour
 - Users
 - Sessions
 - Engaged Sessions
 - Average Engagement Time per Session
 - Engaged Sessions per User
 - Events per Session
 - Engagement Rate
 - Event Count

The dataset required some cleaning as the column names were not named properly and were initially under generic names like Unnamed: x. These were renamed for clarity.

Key Metrics Defined

- 1. **Engaged Sessions**: Number of sessions considered meaningful (e.g., stayed more than 10 seconds, had conversions).
- 2. **Engaged Sessions per User**: Engagement normalized per user.

Non-Engaged Sessions: Calculated as:

Non-Engaged = Sessions - Engaged Sessions

3.

- 4. Average Engagement Time per Session: Mean session time for each channel.
- Engagement Rate: Ratio of engaged sessions to total sessions.
- 6. **Event Count**: Number of triggered events during sessions.

Analysis Breakdown

- Users by Channel Group
 - A bar chart showed user distribution across channels.
 - Organic Social and Direct had the highest user volume.
 - Channels like Organic Video, Referral, and Email had significantly fewer users.
- Engagement by Channel

A comparison between:

- Engaged Sessions per User
- Non-Engaged Sessions

Key Observations:

- Organic Social drove the highest number of sessions, but many were non-engaged.
- Referral and Organic Video channels showed strong engagement levels.
- Email had low traffic and low engagement, possibly indicating ineffective campaigns.
- Average Engagement Time

- Plotted Average Engagement Time per Session for each channel.
- Organic Video had the highest session durations.
- Direct and Organic Search showed lower engagement times.
- Confidence intervals (CI bars) were present but removed later to clean up visualization.
- Estimated Engaged vs Non-Engaged Sessions (Counts)
 - To estimate real counts, Engaged Sessions per User was multiplied by total users.
 - Charts showed:
 - Organic Video and Referral have higher proportions of engaged traffic.
 - Organic Social contributed a large share of non-engaged sessions.
- Engagement Rate Distribution
 - Engagement Rate ranged roughly between 0.47 to 0.65 across channels.

• This indicates room for improvement, especially in **Organic Social** and **Direct** channels.

★ Summary Table (per Channel Group)

Channe I Group	Sess ions	Engage d Session s	Avg. Engageme nt Time		Comment
Organic Social	High	Moderat e	Medium	~49%	High volume, low quality
Direct	High	Low	Low	~48%	Weak engageme nt
Referral	Medi um	High	High	~65%	Great performanc e
Organic Search	Medi um	Moderat e	Medium	~48%	Mixed performanc e
Email	Low	Low	Medium	~48%	Low-impact channel

Organic Video	Low	High	Very High	~55–60%	Small but strong channel
Unassig ned	Low	Low	Unknown	Unknown	Needs cleanup

Conclusions

- Focus on improving Organic Social: It's the biggest driver of sessions but with low engagement quality.
- Double down on Referral and Organic Video: These channels show high engagement value and deserve more investment.
- Re-evaluate Email strategy: Low return despite potentially targeted audience.
- **Improve tagging**: Clean up Unassigned traffic for better attribution.

Recommendations

1. Content Strategy:

- Tailor landing pages/content for Organic Social to increase user retention.
- Use video and referral content in paid campaigns for broader reach.

2. Technical Analytics:

- Add UTM parameters or proper tracking to classify "Unassigned" traffic.
- Track micro-conversions (scrolls, clicks) for better session quality analysis.

3. User Segmentation:

 Segment users based on engagement rate and personalize outreach (e.g., emails).

4. A/B Testing:

 Experiment with different page layouts or CTAs on underperforming channels (e.g., Direct).