

# Website Performance Analysis Report

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So I did a full breakdown of the website's performance. Here's what I found from the analysis:

## 1. Where Our Users Are Coming From

I started by looking at the total number of users by acquisition channel. The standout channels were:

- **Direct traffic** – had the highest user volume.
- **Organic Social and Organic Search** – also brought in a good number of users.
- **Email and Organic Video** – these were much smaller in comparison.

This gives us a clear idea of which channels are really driving traffic—and honestly, Direct being the leader could mean strong brand recognition or people bookmarking us directly.

## 2. User Activity Over Time

Next, I plotted user sessions over time (hourly). This helped spot:

- When the traffic spikes during the day.
- Which days performed better overall.

This could be super useful if we're planning to schedule social media posts or email campaigns—timing them when traffic is naturally higher could increase engagement.

## 3. How Long Users Stay Engaged

Then I dug into the **average engagement time per session** by channel.

- **Direct traffic users** stayed engaged the longest.
- **Organic Video and Organic Social** users had lower average engagement time.

That might mean our content is more relevant to people who come directly, while social or video might need better alignment with landing pages or clearer CTAs.

## 4. Engagement Rate by Channel

I used a boxplot to show how engagement rate varied by channel. Here's what stood out:

- **Direct and Organic Search** had a **more consistent and higher engagement rate**.
- Channels like **Email and Organic Video** had more variability and lower engagement.

This means our most reliable traffic (in terms of quality) is coming from users who already know what they're looking for.

## 5. Engaged vs Non-Engaged Sessions

I compared the number of engaged vs. non-engaged sessions.

- **Direct and Organic Search** drove not just traffic but also more **engaged sessions**.
- **Referral and Unassigned traffic** showed higher drop-off, with more non-engaged sessions.

This could signal either poor landing experiences or misaligned targeting for those sources.

## 6. Traffic by Hour and Channel

I made a heatmap to see which **channels are most active during which hours**. This helped identify:

- Direct traffic peaks in late afternoons and evenings.
- Organic Social tends to peak mid-day.

Really helpful if we're optimizing post timing or campaign launches.

## 7. Engagement Rate vs Sessions Over Time

Lastly, I overlaid **engagement rate and sessions** on a time series chart.

- There's **no strong correlation** between the two. Some high-session periods had lower engagement, and vice versa.
- This shows that traffic volume doesn't always mean quality. We need to balance both.

## Key Takeaways

- **Direct traffic is leader**—both in quantity and quality.
- **Organic Social brings users**, but we may need to refine the content or UX to keep them engaged.
- **Referral and Email** need review—either we're attracting the wrong people or there's a drop-off post-click.
- Time-of-day patterns can help **optimize when we launch** ads, emails, and posts.
- Just getting traffic isn't enough—we need to focus on engagement consistently.