



DATA-DRIVEN INSIGHTS FOR DIGITAL MARKETING CAMPAIGNS

Leveraging Analytics to Optimize Campaign Performance

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EXECUTIVE SUMMARY

This project analyzes digital marketing performance using **Power BI** to uncover insights about user behavior, channel performance, engagement levels, and revenue contribution.

The objective was to understand how different marketing channels and audience segments contribute to overall performance and to identify data-driven strategies for improving conversions, retention, and campaign ROI.

Through a combination of **exploratory data analysis (EDA)**, **KPI creation**, and **interactive dashboarding**, this report translates data findings into actionable business insights and strategic recommendations.

OBJECTIVES AND METHODOLOGY

Project Objectives

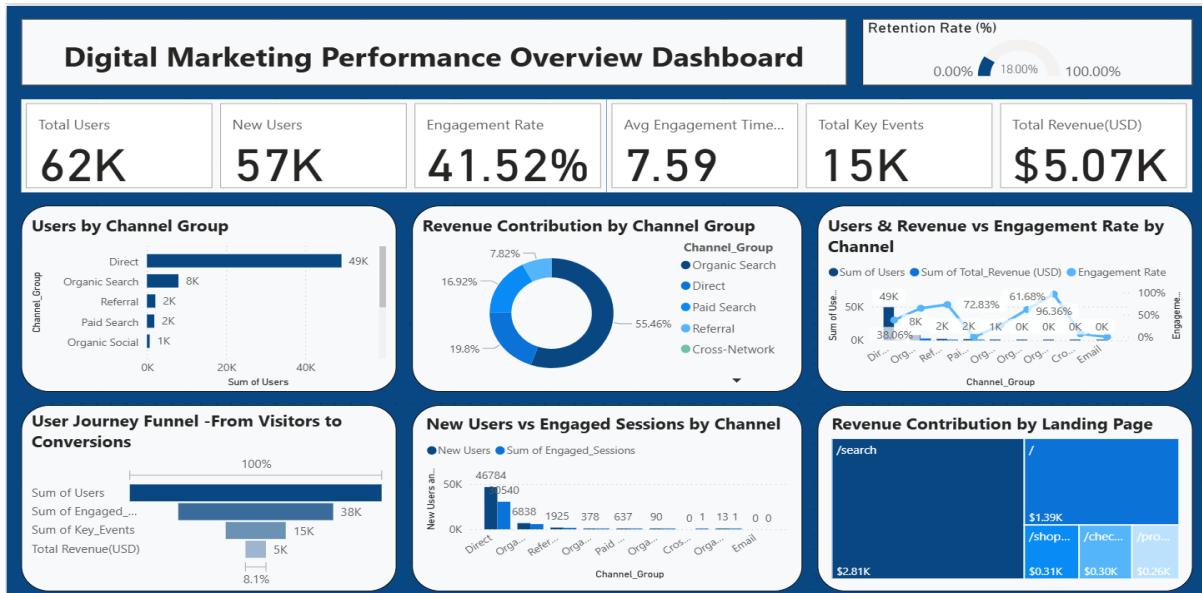
- Measure and analyze **overall marketing performance** and engagement trends.
- Identify **high-performing channels** and **top revenue sources**.
- Assess **user demographics**, including age, gender, and regional patterns.
- Provide **data-driven recommendations** to enhance user retention and conversion rates.

Methodology

- **Dataset Source:** Google Analytics-based marketing dataset containing metrics such as users, sessions, events, engagement rate, and revenue.
- **Tools Used:** Power BI and Excel.
- **Key Steps:**
 1. Data cleaning and preprocessing to remove null values and unify data types.
 2. Development of DAX-based measures (e.g., Retention Rate %, Returning Users %, Engagement Rate %).
 3. Exploratory data analysis to identify patterns and trends.
 4. Visualization through two interactive dashboards for deeper storytelling and insight extraction.

KEY FINDINGS AND INSIGHTS

A. Marketing Performance Insights



1. User & Channel Distribution

- The platform recorded **62K total users**, with **Direct traffic (49K)** being the top contributor.
- **Organic Search (8K)** users generated the **highest revenue share ($\approx 55\%$)**, indicating SEO's strong performance.
- Channels like **Referral and Paid Search** show potential but require stronger engagement strategies.

2. Engagement and Retention

- The **average engagement rate** stands at **41.52%**, indicating moderate interaction levels across sessions.
- **Average engagement time of 7.59 seconds** suggests limited attention span, requiring improved landing page experiences.
- **Retention Rate (18%)** and **Returning Users (9.07%)** indicate significant room for improving brand loyalty and customer re-engagement.

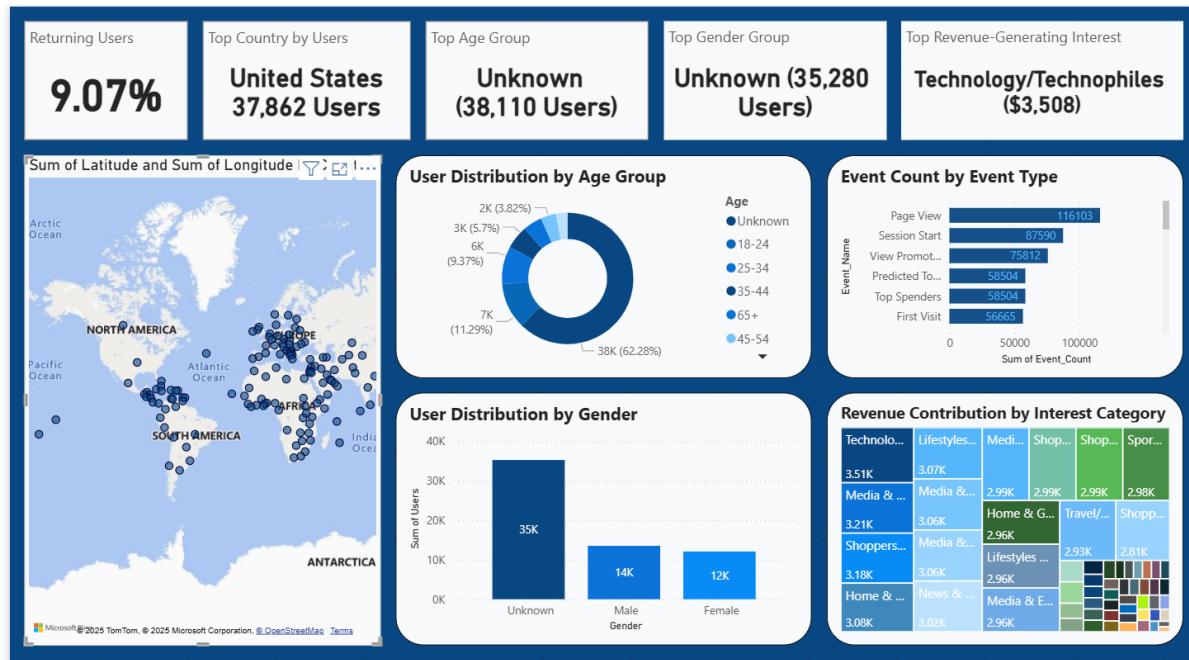
3. Revenue and Funnel Analysis

- Despite decent engagement, only **~8% of total users** convert to revenue.
- Drop-offs are visible between **engaged sessions → checkout → purchase**, signaling optimization needs in checkout UX and offer personalization.
- **Total revenue generated is \$5.07K**, with strong dependency on the top 2 traffic sources (Direct & Organic).

4. Landing Page Insights

- The **/search** page drives the majority of revenue, followed by **/shop** and **/checkout** pages.
- Funnel drop-offs after “Add to Cart” highlight a gap in conversion flow — likely due to pricing visibility or user friction at checkout.

B. Audience and Demographic Insights



1. Regional Distribution

- The **United States** contributes the **largest user base (37,862)**, followed by **India** and **Canada**, marking these as key focus markets.
- These regions show high engagement potential but varying revenue performance — suggesting localized campaign strategies could improve ROI.

2. Age and Gender Segmentation

- The **Unknown** category dominates both **Age (62%)** and **Gender (57%)** fields, revealing a major data gap that limits precise targeting.
- Among known demographics, users aged **25–34** show the highest participation, while gender distribution is nearly even among male and female users.

3. Interest-Based Insights

- The **Technology/Technophiles** audience segment generated the **highest revenue (\$3.5K)**, followed by **Media & Entertainment** and **Lifestyle** segments.
- **Engagement Rate** remains consistent ($\approx 45\text{--}55\%$) across most interest categories, suggesting steady audience activity but minimal differentiation in engagement strategies.

4. Event Behavior

- The top events recorded were **Page Views (116K)**, **Session Starts (87K)**, and **View Promotion (75K)** — indicating high awareness and content interaction.
- However, lower counts in “Add to Cart” and “Purchase” events show conversion bottlenecks beyond initial engagement.

RECOMMENDATIONS AND ACTION PLAN

A. Marketing Performance Recommendations

1. Optimize Channel Mix

- Strengthen top-performing channels like **Direct** and **Organic Search** through content consistency and SEO optimization.
- Reallocate budget to underutilized channels (e.g., **Email, Paid Search**) with high conversion potential.

2. Boost Engagement Across Touchpoints

- With a 41% engagement rate, improve **landing page UX** and implement **interactive elements** (videos, scroll triggers).
- Conduct **A/B testing** on CTAs, visuals, and messaging to reduce bounce rates.

3. Improve Funnel Conversion

- Introduce **retargeting ads** and **personalized offers** for users who engaged but didn't purchase.
- Simplify checkout and reduce friction in the payment flow to lower drop-offs.

4. Strengthen Retention and Re-engagement

- Launch **loyalty programs** and **email remarketing** to increase retention beyond 18%.
- Encourage repeat visits through personalized deals and content reminders.

B. Audience & Demographic Recommendations

1. Focus on High-Value Regions

- Prioritize campaigns in **United States**, while tailoring creatives for **India** and **Canada** as emerging growth markets.

2. Enhance Demographic Tracking

- Implement **analytics tagging** or mandatory profile fields to reduce “Unknown” data and improve segmentation accuracy.

3. Leverage Interest-Based Marketing

- Personalize campaigns for high-value segments like **Technology**, **Media**, and **Lifestyle** audiences to maximize ad ROI.

4. Personalize Engagement

- Use **behavioral triggers** (cart abandoners, frequent visitors) to deliver personalized offers.
- Reinforce loyalty via targeted re-engagement emails for the **9.07% returning users**.

CONCLUSION

The analysis provides a clear view of digital marketing effectiveness across acquisition, engagement, and conversion stages.

Key strengths include strong **SEO performance** and high traffic volume through **Direct channels**, while key improvement areas involve **conversion optimization, data completeness, and re-engagement strategy**.

By implementing the outlined action plan — focusing on enhanced audience tracking, content personalization, and user journey optimization — the organization can expect measurable improvements in both **conversion rates** and **customer lifetime value**.

APPENDIX

Key KPIs Used

KPI	Definition	Formula
Total Users	Number of unique users	COUNT(User_ID)
New Users	First-time visitors	COUNT(New_User_ID)
Engagement Rate (%)	% of sessions with meaningful interaction	(Engaged Sessions / Total Sessions) × 100
Retention Rate (%)	% of users returning after initial visit	(Returning Users / Total Users) × 100
Returning Users (%)	Returning visitor percentage	Same as Retention or custom DAX
Revenue (USD)	Total monetary contribution	SUM(Revenue)

Tools Used

- Power BI (DAX, Data Modeling, Visuals)
- Excel (Data Cleaning, Validation)

Dashboards Created

1. Marketing Performance Overview Dashboard
2. Audience Demographics & Engagement Dashboard

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