**Marketing Insight Report.**

**Introduction**

The web traffic dataset shows visitor's activities on the website. It contains 2000 records and 7 metrics; page views, session duration, bounce rate, traffic source, time spent on the page, prior visits, and conversion rate. The purpose of this project is to uncover insights into user behavior, engagement trends, and potential areas for marketing optimization.

**Observation**

There are 1999 users from this dataset

The correlation matrix shows a weak positive and negative relationship between the various variables.

The relationship between Page Views and Session Duration reveals a random pattern with no clear, consistent trend. At 3, 4, 6, 8, and 10-page views, the session duration was high.

The most website traffic comes from Organic sources and the least is direct sources. This trend is consistent when analyzing Time on Page and Conversion Rate across traffic sources. Users from Organic sources spend more time on the website and exhibit higher conversion rates, whereas Direct traffic users show the shortest time on the page and the lowest conversion rates.

relationship between Time on Page and Bounce Rate shows no significant correlation

The data visualization of Time on Page and Conversion Rate, Session Duration, and Conversion Rate reveals that users who spend between 5 to 15 minutes on a specific website page are more likely to convert from visitors to buyers.

**Conclusion**

The dataset reveals that Organic traffic drives the most visits, time on page, and conversion rate. Session durations of 5–15 minutes significantly boost conversion. However, weak correlations exist among key metrics. Further analysis should focus on content performance, user journey mapping, and traffic source optimization to enhance engagement and conversions.

Due to the weak correlation, more advanced methods, like polynomial regression or nonlinear models (e.g., decision trees, random forests) can be applied to uncover hidden patterns.