



PROMPT ONE

The Milwaukee Bucks are considering the introduction of four themed partial ticket plans for the upcoming season:

1. **Value Plan:** Focused on affordable tickets for weekday games.
2. **Marquee Opponent Plan:** Featuring games against high-profile opponents.
3. **Weekend Plan:** Highlighting weekend games for fans looking for weekend entertainment.
4. **Promotional Giveaway Inclusive Plan:** Centered around games with promotional giveaways.

These plans aim to cater to diverse fan interests and purchasing behaviors. However, because these plans are newly introduced, historical purchase data specifically tied to them does not exist. Your challenge is to leverage historical ticketing data to predict the likelihood that an account will purchase one of these new partial plans and which plan they are most likely to purchase.

Your task is to

1. **Understand Customer Behavior**
 - Utilize the provided mock datasets
 - Feel free to embed additional data, if helpful
2. **Build Propensity Models**
 - Create predictive models to determine the likelihood of an account purchasing each of the four new partial plans.
 - Engineering predictive features and utilizing behavioral, demographic and spending patterns as predictors.
3. **Deliver Insights and Recommendations**
 - Present actionable insights for the Milwaukee Bucks' sales and marketing teams:
 1. Which accounts are most likely to purchase each plan?
 2. Which plan are they most likely to purchase
 3. How can the organization personalize marketing efforts to target high-propensity accounts?

PROMPT TWO

The Milwaukee Bucks want to better understand the **customer lifetime journey** to optimize fan engagement, ticketing strategies, and long-term retention. Fans interact with the team in various ways – attending single games, purchasing partial plans, upgrading to season tickets, engaging with digital content, and participating in promotions. However, the team lacks a structured framework to predict **how fans progress through different ticketing products over time** and which factors drive increased engagement and spending.

Your challenge is to **analyze fan behaviors, segment customers based on their journey stage and build predictive models** to determine the likelihood of fans progressing to higher levels of engagement.

Your task is to

1. **Map the Customer Journey Stages:**

- Define customer segments based on historical purchasing behavior, such as:
 - **Casual Fan:** Buys single-game tickets occasionally.
 - **Engaged Fan:** Purchases multiple single-game tickets or group tickets.
 - **Partial Plan Holder:** Purchases partial plan packages
 - **Season Ticket Prospect:** Has engaged at a high level but hasn't committed to full season tickets.
 - **Season Ticket Member (STM):** Highest level of commitment.
- Identify transition probabilities between these stages over time.

2. **Analyze Key Drivers of Engagement & Retention:**

- Use historical ticketing, spending, and engagement data to uncover what behaviors lead to fans moving to a higher tier (e.g., what percentage of casual fans convert to partial plans?).
- Identify churn risk—what behaviors indicate a fan is disengaging?

3. **Build Predictive Models:**

- Create a **propensity model** to predict which fans are likely to move to the next engagement tier.
- Build a **churn model** to predict which fans are at risk of disengagement.

4. **Provide Business Insights & Recommendations:**

- Suggest data-driven marketing and retention strategies (e.g., targeted offers, email campaigns).
- Propose engagement initiatives to increase customer lifetime value.