Milwaukee Bucks Business Objectives

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1 Introduction

In this paper, we understand the customer's business goals and define success from a business perspective. We assess the resources, project requirements, risks and perform a cost-benefit analysis. We then define the technical success criteria for the data mining work. Lastly, we create a project plan by selecting the right tools and outline the steps.

2 The Business Objective

First, we need to understand what we need to understand what the customer (Milwaukee Bucks) wants to achieve with the project. This means figuring out their goals or what success looks like for them from a business point of view.

2.1 The Milwaukee Bucks Business Objectives

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

- **Value Plan:** focuses on affordable tickets for weekday games
- **Marquee Opponent Plan:** featuring games against high profile opponents
- **Weekend Plan:** hihglighitng weekend games for fans looking for weekend entertainment
- **Promotional Giveaway Inclusive Plan:** centered around games with promotional giveaways

Data Science Goal: to leverage historical ticketing data to predict the likelihood that an account will purchase one of the new partial plans and which plan they're most likely to purchase.

Business Goal: to increase sales of new partial ticket plans by targeting fans fan personalized marketing, based on insights from historical ticketing behavior.

2.2 Understanding the Data

To leverage ticketing data means to look at all three data sets and figure out what kind of insights we can derive from it. Here are some of the things that we know about the datasets:

- There are three kinds of tickets being purchased, single game, partial plan and group tickets
- Each user account has a average amount of spending that is made based off the sales of the tickets
- There are fans who have a level of interest, have attended games, and live a distance away from the stadium
- There are games which contains just data of which games have given out a giveaway
- There are games which contains the season at which it was played, as well as the date and the tier

2.3 Cost-Benefit Analysis

When it comes to availability to ticketing data, we have all the data on the seats, games and the accounts. We can use data science and machine learning tools to derive insights and deliver conclusions. The timeline for this project is approximately one month from April to May.

Some associated risks of this may be that the predictions are not accurate or actionable. Another risk is that there might not be enough data or there are fields that are missing. Although the cost of this project is that time put in for data analysis, the benefit is that this will lead to a more targeted advertising campaign.

2.4 Data Mining Goals

When it comes to data mining goals, we would like to predict likelihood of purchase and predict which plan each account is likely to purchase. We identify the key customer features in terms of predictiveness, and export these predictions into a format that marketing / sales teams can use.

2.4.1 Data Mining Techniques

For now, these are some of the suggested data mining techniques that can be used for data analysis:

- Determining methods of imputation for the missing values in all of the datasets
- Determining the target variable in different datasets and creating visualizations to determine relationships
- Using statistical testing tehcniques to determine the relationships between diffent data types
- Using hypothesis testing methods to determine the relationships between different features in the dataset
- Exploring merging datasets or dividing datasets to derive newer insights of relationships between features