Milwaukee Bucks Dataset Two
Account Level

Milwaukee Bucks Data Card

Dataset Introduction

This dataset is contains information about 43,028 fans who have attended Milwaukee Bucks games from the seasons of 2023 to 2024. There are a total of 44,211 observations and 12 features.

Dataset Origins & Motivation

Having the dataset provided by the Milwaukee Bucks for the 2025 Hackathon, there are four themed partial ticket plans for the upcoming season. These plans are aimed to cater to diverse fan interests and purchasing behaviors.

The Ultimate Challenge

The challenge is to leverage historical purchasing data to predict the likelihood that an account will purchase one of these new partial plans and which plan they're most likely to purchase. We achieve this by understanding customer behavior, building propensity models & developing insights.

Account Level

Milwaukee Bucks Data Card

Dataset Link
https://github.com/chowdhuryj-github/BucksHackathon25/tree/main/BucksDatasets

Datcard Author
The author of this Data Card for the Account Level dataset is Salvin Chowdhury. He is a sophomore undergraduate student at the Milwaukee School of Engineering with a interest in Data Science. Feel free to contact him chowdhuryjawadul@icloud.com

Publishing Organization
The organization behind publishing the dataset is the Milwaukee Bucks. They are also the owners of the dataset and are a privately held company owned by a group of investors. They can be contacted here.

Account Level

Milwaukee Bucks

Data Card

Sensitivity

As this is data made available to participants of the Milwaukee Bucks Hackathon of 2025, there is low sensitivity associated with the features.

Information about Dataset

The dataset has a total of 44,211 rows and 12 columns. Here is more information about the number of non-null values and the data type of each feature.

#	Column	Non-Null Count	Dtype
0	Season	44211 non-null	int64
1	AccountNumber	44211 non-null	int64
2	SingleGameTickets	44211 non-null	int64
3	PartialPlanTickets	44211 non-null	int64
4	GroupTickets	44211 non-null	int64
5	STM	44211 non-null	int64

#	Column	Non-Null Count	Dtype
6	AvgSpend	44211 non-null	float64
7	GamesAttended	44211 non-null	int64
8	FanSegment	44211 non-null	object
9	DistanceToArena	41088 non-null	float64
10	BasketballPropensity	37214 non-null	float64
11	SocialMediaEngagement	44211 non-null	object

Account Level

Milwaukee Bucks

Data Card

Dataset Snapshot

Here, we provide a snapshot of the dataset, to give an idea as to how the dataset really looks like.

	Season	AccountNumber	SingleGameTickets	PartialPlanTickets	GroupTickets	STM	AvgSpend	GamesAttended	FanSegment	DistanceToArena	BasketballPropensity	SocialMediaEngagement
0	2023	1	0	0	0	0	467.00	0	F	12.0	872.0	Low
1	2023	2	2	0	0	0	116.00	1	A	47.0	485.0	Low
2	2023	3	3	0	0	0	107.00	1	B	6.0	896.0	Low
3	2023	4	0	0	3	0	27.00	1	C	3.0	467.0	High
4	2023	5	0	0	2	0	14.00	1	A	4.0	582.0	Medium
...	...	...	...	...	...	...	...	...	...	...	...	...
44206	2024	43025	2	0	0	0	2.00	1	A	26.0	290.0	High
44207	2024	43026	0	0	3	0	6.34	1	D	6.0	266.0	Medium
44208	2024	43027	0	0	6	0	41.00	1	Limited Data	9.0	392.0	High
44209	2024	43028	2	0	0	0	68.00	1	A	6.0	898.0	High
44210	2024	15667	0	0	0	1	144.00	0	G	10.0	385.0	Medium

Account Level

Milwaukee Bucks

Data Card

Descriptive Statistics

To gain a better understanding of the dataset, we have provided the descriptive statistics which gives information about the mean, standard deviation, minimum, maximum and more.

	Season	AccountNumber	SingleGameTickets	PartialPlanTickets	GroupTickets	STM	AvgSpend	GamesAttended	DistanceToArena	BasketballPropensity
count	44211.000000	44211.000000	44211.000000	44211.000000	44211.000000	44211.000000	44211.000000	44211.000000	41088.000000	37214.000000
mean	2023.645631	21116.251815	1.987582	0.836082	2.476669	0.049648	81.139832	1.262966	143.870668	689.229027
std	0.478327	12508.767388	15.080973	5.177241	178.657845	0.217220	94.742229	2.323687	329.215154	235.621148
min	2023.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	125.000000
25%	2023.000000	10169.500000	0.000000	0.000000	0.000000	0.000000	30.000000	1.000000	8.000000	481.000000
50%	2024.000000	20923.000000	2.000000	0.000000	0.000000	0.000000	62.000000	1.000000	30.000000	719.000000
75%	2024.000000	31975.500000	3.000000	0.000000	0.000000	0.000000	100.000000	1.000000	87.000000	923.000000
max	2024.000000	43028.000000	3120.000000	120.000000	37200.000000	1.000000	3297.000000	41.000000	4240.000000	993.000000

Milwaukee Bucks Data Card

Numerical Features Summary

With regards to numerical features in this dataset, we look at the key insights and considerations of each of the features

- **Single Game Tickets:** there are a total of 44,211 tickets purchased, with the mean number of tickets being purchased is 1.98. While the lowest number is 0, the highest is 3120
- **Partial Plan Tickets:** there are a total of 44,211 tickets purchased, with the mean number of tickets being purchased is 0.82. While the lowest number is 0, the highest is 120
- **Group Tickets:** there are a total of 44,211 tickets purchased, with the mean number of tickets being purchased 2.477. While the lowest number is 0, the highest is 37200
- **Average Spend:** there are a total of 44,211 spenders, with the average being spent is $81. While the lowest for a ticket is $0, the highest spent is $3297

Account Level

Numerical Features Summary

With regards to numerical features in this dataset, we look at the key insights and considerations of each of the features

- **Games Attended:** the amount of games being attended being 44,211, with the average being 1.3. While the lowest number is 0, the highest appears to be 41 games attended in total
- **Distance To Arena:** the amount of user accounts tracked for this is 41,088, with the average being 143 miles. While the lowest is 0 miles, the highest is 4,240 miles
- **Basketball Propensity:** the amount of user accounts being tracked for this is 37,214, with the average being 689. The lowest interest is 125 for Bucks games and the highest is 993

Categorical Features Summary

With regards to categorical features in this dataset, we summarize the key statistics.

	Unique	Common
Seasons	2023, 2024	2024
STM	0, 1	0
FanSegment	A, B, C, D, E, F, G, Limited Data	Limited Data
SocialMediaEngagement	Low, High, Medium	Medium

Milwaukee Bucks Data Card

Feature Description

We now look at the features that we're working with and include the descriptions for each of them

	Description
Seasons	Season associated with the information. A value of 2023 means the 2023-24 season, and a value of 2024 means the 2024-25 season
AccountNumber	Mock account number assigned to each account
SingleGameTickets	Single game tickets purchased in the associated season
PartialPlanTickets	Partial plan tickets purchased at the associated season

Account Level

Milwaukee Bucks Data Card

Feature Description

We now look at the features that we're working with and include the descriptions for each of them

	Description
GroupTickets	Partial plan tickets purchased ar the associated season
STM	Value of 1 if the account is a season ticket member, 0 otherwise
AvgSpend	Mock average spend on all tickets - not just single game, partial plan, or group tickets - purchased in the associated season
GamesAttended	Games attended in an associated season - inclusive of all tickets, not just single game, partial plan, or group tickets

Account Level

Milwaukee Bucks Data Card

Feature Description

We now look at the features that we're working with and include the descriptions for each of them

	Description
FanSegment	Group assigned to each fan - see 'Fan Segmentation Definitions' table for more information
DistanceToArena	Distance from residence to Fiserv Forum in miles
BasketballPropensity	Numerical value representing basketball interest. Values are on a scale from 0-1,000, where 1,000 is maximum basketball interest
SocialMediaEngagement	Mock social media engagement grouped by low, medium, and high engagement

Account Level

Milwaukee Bucks Data Card

Fan Segmentation Definitions

Fan Segmentations are dividied into A, B, C, D, E, F, G and Limited Data.

Fan Segment	Definition
A	Family-oriented fan with money to spend, but limited interest in attending games
B	Fan who attends game for social experience and not the Bucks
C	Fan who is willing to spend, but wants an exciting fan experience
D	Fan who loves basketball and will attend as many games as their discretionary income allows

Account Level

Milwaukee Bucks Data Card

Fan Segmentation Definitions

Fan Segmentations are dividied into A, B, C, D, E, F, G and Limited Data.

Fan Segment	Definition
E	Fan who is in their honeymoon phase of their relationship with the Bucks and is willing to spend more
F	Fan with money and passion
G	Fan who is among the Bucks biggest spenders
Limited Data	Fan with not enough data to be assigned a fan segment

Account Level