

REWARDING TORONTO FC'S MOST LOYAL FANS

WEATHER-DRIVEN ATTENDANCE INSIGHTS
ENGAGING THE UNSTOPPABLE

COOPER  INC.

HARNESSING DATA, SHAPING THE FUTURE

WEEK 4

INTRODUCTION

This week we are to delivery the following:

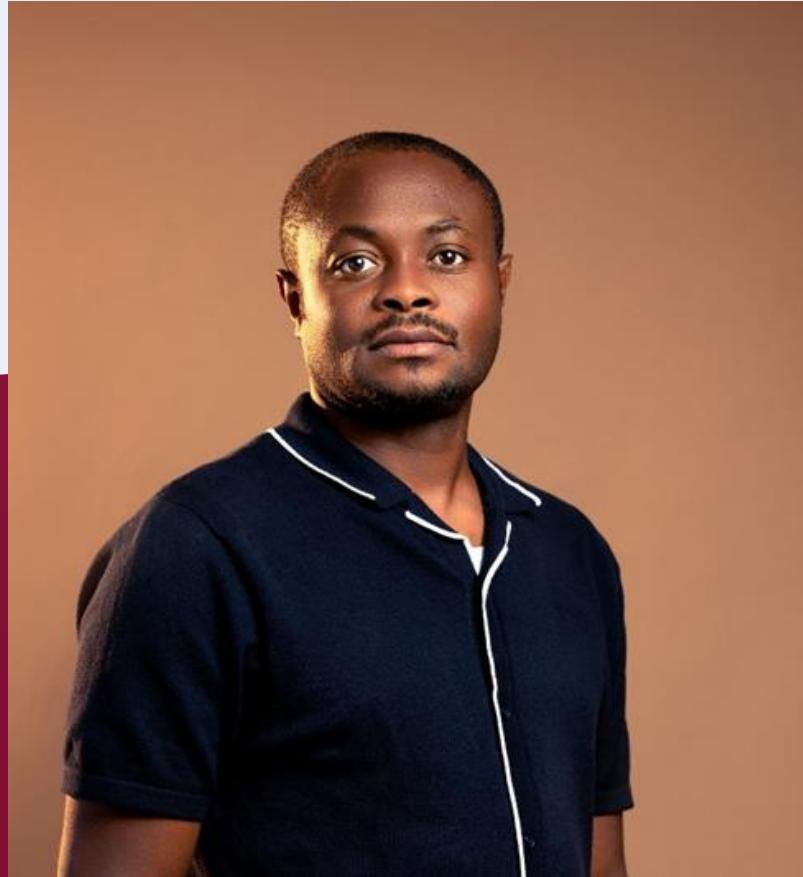


- Assess the practicality of creating an algorithm that correlates historical weather data with attendance data.
- Provide a well-justified rationale for the final decision on the feasibility of developing the algorithm.
- If feasible, outline the potential advantages of implementing the algorithm within the marketing campaign context.

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CHIBUIKE OKOROAMA



**VENKATA MANISH
KATRAGADDA**



PRESCILA MORA



MOHAMED AFTHAB



TEAM MEMBERS



KEY FACTS

- Since **2007**
- Major League Soccer (**MLS**)
- **BMO Home Field, 30,991 seating capacity expanded to 40,000**
- Average Fan Attendance: **25,310 in 2023**

ACHIEVEMENTS

- 2017 MLS Cup **Champions**
- Multiple-time Canadian Championship winners



OBJECTIVE FEASIBILITY ANALYSIS ON TORONTO FC's WEATHER-DRIVEN FAN LOYALTY ALGORITHM



To **assess** the **feasibility** and **potential benefits** of developing an algorithm that correlates historical weather data with attendance records, aimed at identifying and rewarding Toronto FC's most **loyal fans** who attend matches despite challenging **weather conditions**.

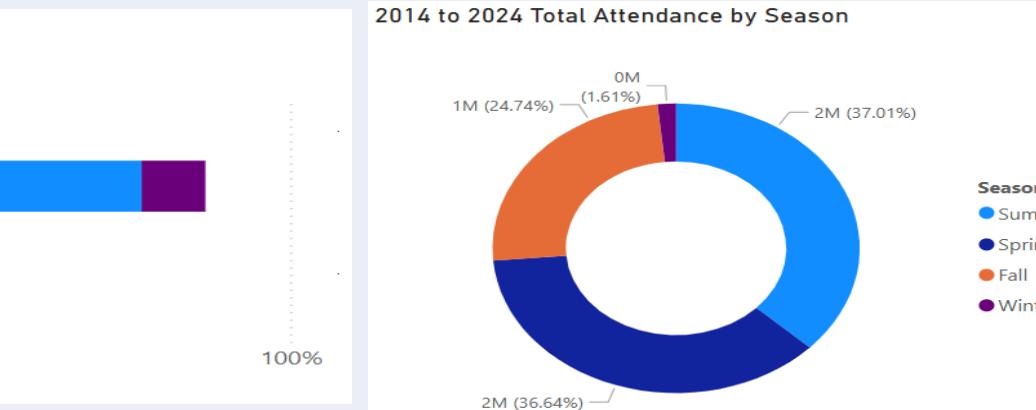
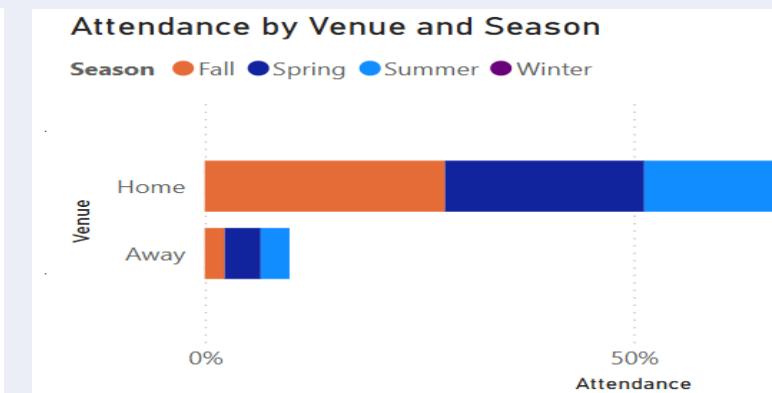
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Home Game

Attendance 2014 to 2024

378

Total Number of Games

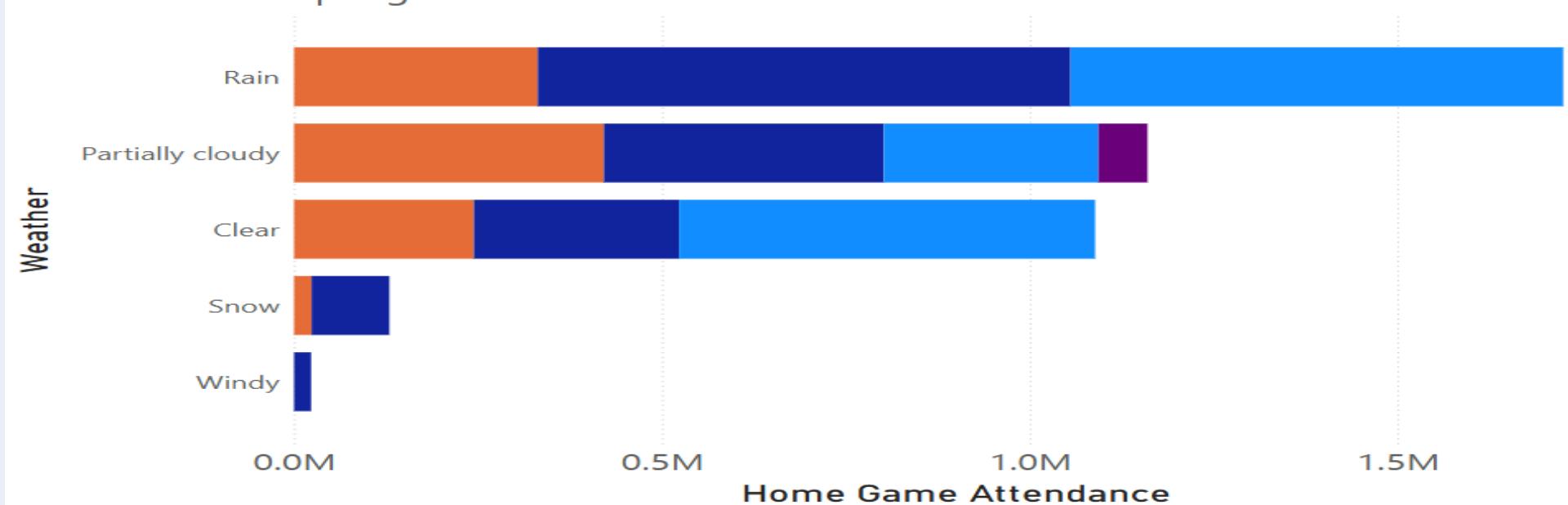


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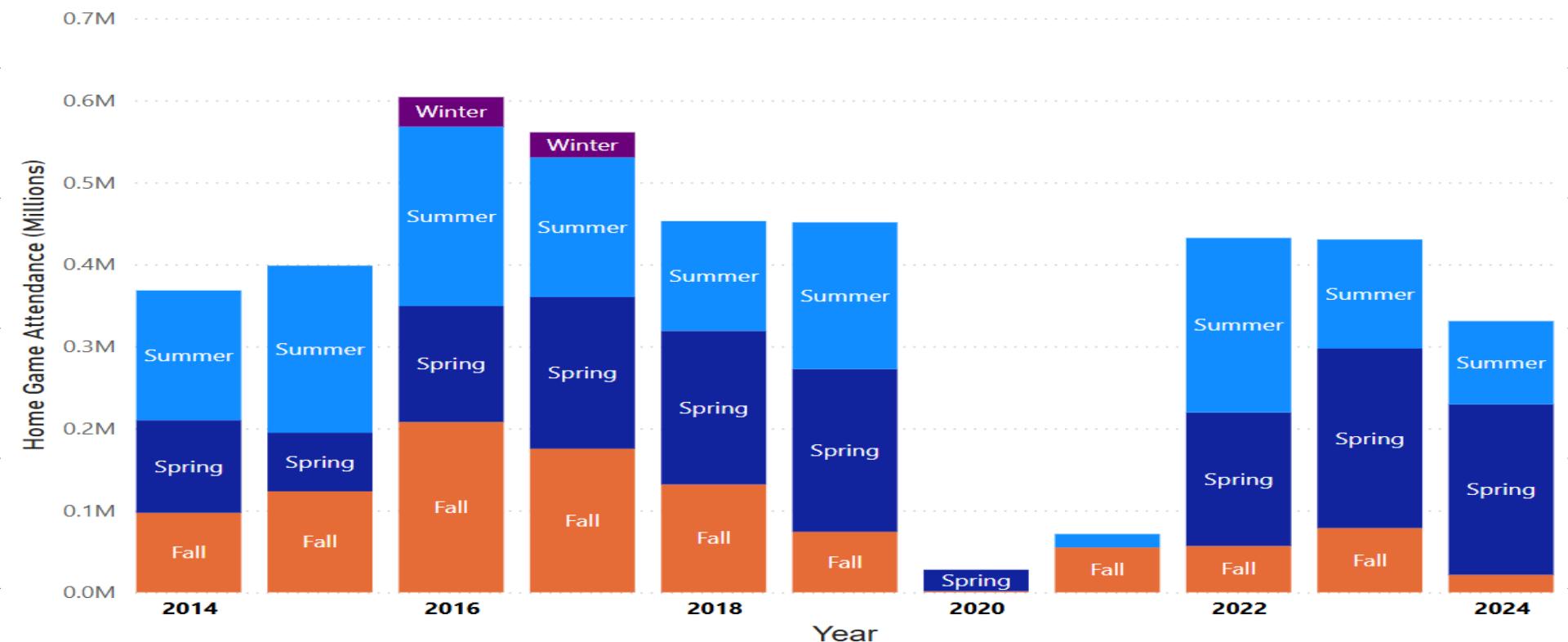
2014 to 2024 Toronto FC Home Games

Home Game Attendance by Weather and Season

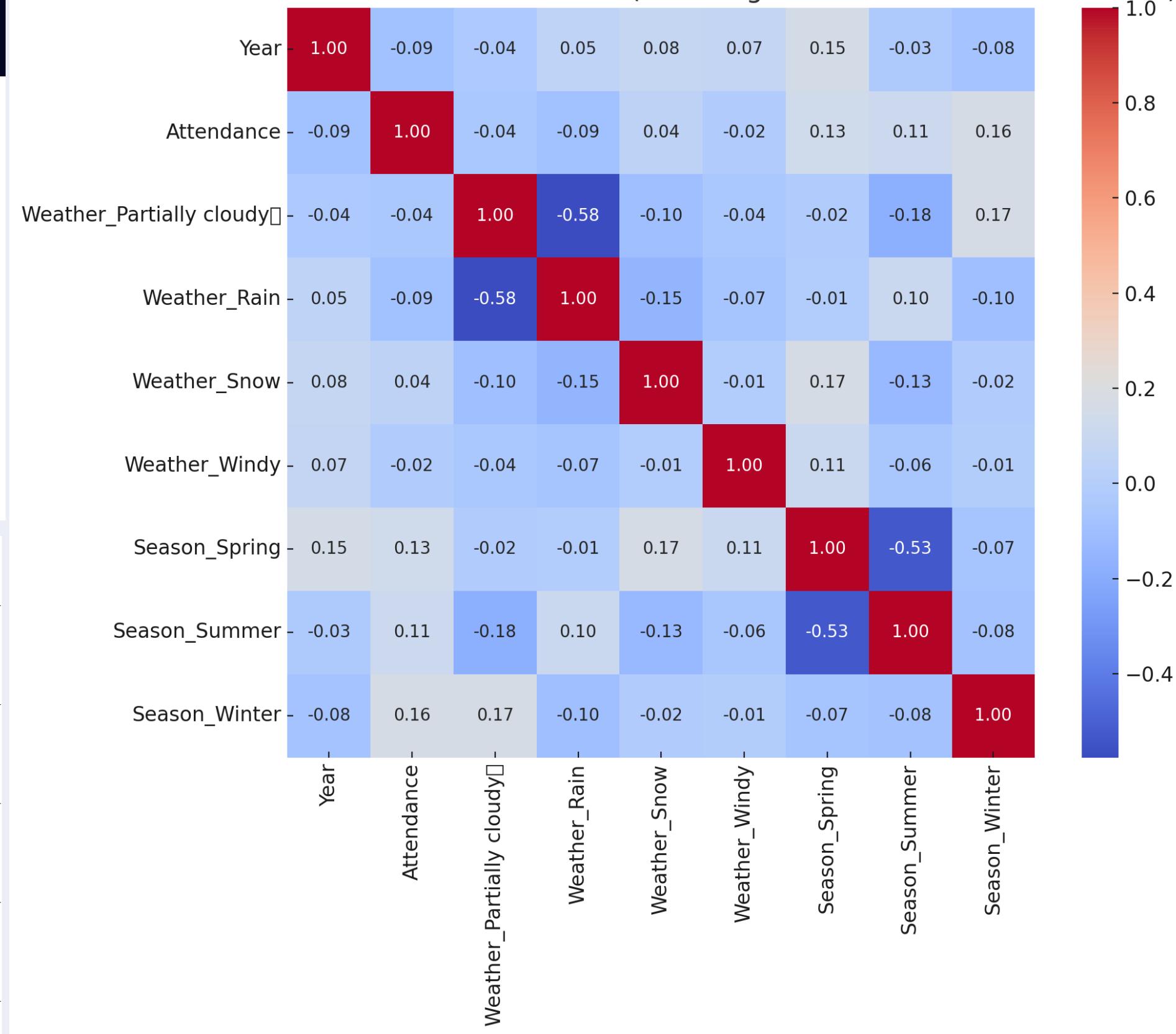
Season ● Fall ● Spring ● Summer ● Winter



Home Game Attendance by Year and Season



Correlation Matrix for Home Games (Including Weather and Season with Fall)



Python code for the correlational matrix

```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt

# Read the Excel file
# Replace 'your_file.xlsx' with the actual filename
df = pd.read_excel('MLSCleanTorontoFCGames_Attendance_Weather_2024_2014.xlsx')

# Filter for home venues
df_home = df[df['Venue'] == 'Home']

# Select relevant columns
# Replace these column names with the actual names in your Excel file
columns_of_interest = ['Weather', 'Season', 'Attendance']
df_correlation = df_home[columns_of_interest]

# Create correlation matrix
correlation_matrix = df_correlation.corr()

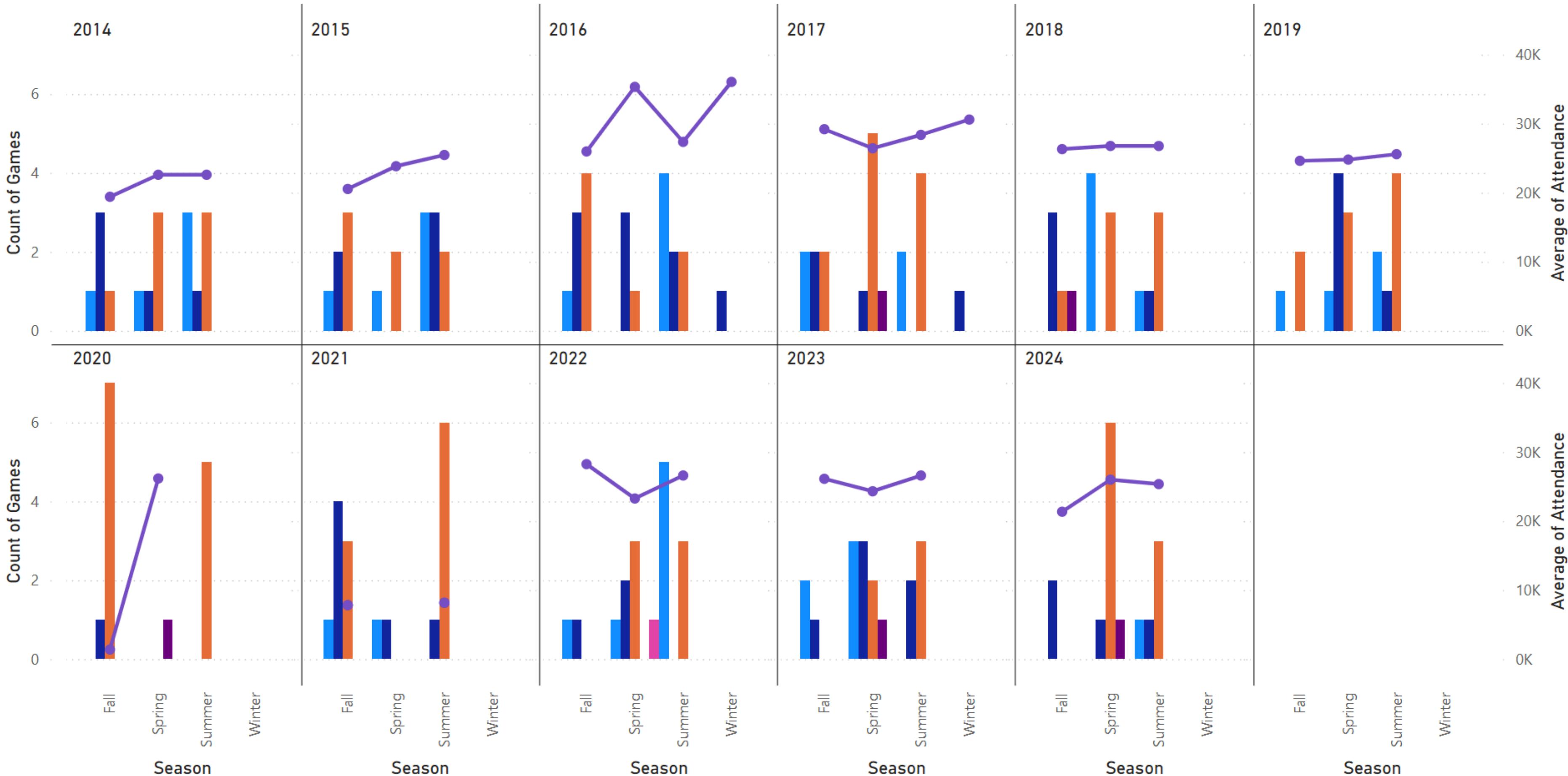
# Create a heatmap of the correlation matrix
plt.figure(figsize=(10, 8))
sns.heatmap(correlation_matrix, annot=True, cmap='coolwarm', vmin=-1, vmax=1, center=0)
plt.title('Correlation Matrix: Weather, Season, and Attendance (Home Venue)')
plt.tight_layout()
plt.show()

# Print the correlation matrix
print(correlation_matrix)
```

2014 to 2024 Toronto FC's Home Games

Count of Games and Average of Attendance by Season, Weather and Year

Weather ● Clear ● Partially cloudy ● Rain ● Snow ● Windy ● Average of Attendance



assessing the algorithm feasibility

METHODOLOGY

Data Collection and Analysis

- Gather historical weather data, fan attendance
- Analyze data for pattern and correlation

Algorithm Design

- Define key variable
- Identify model

Implementation Planning

- Assess technical requirements
- Determine integration points with existing systems
- Plan for data privacy and security measures

KEY FACTORS SUPPORTING PRACTICALITY

- Abundant data sources available
- Existing technology sufficient for implementation
- Clear correlations potential between weather and attendance

feasibility rationale

DATA AVAILABILITY



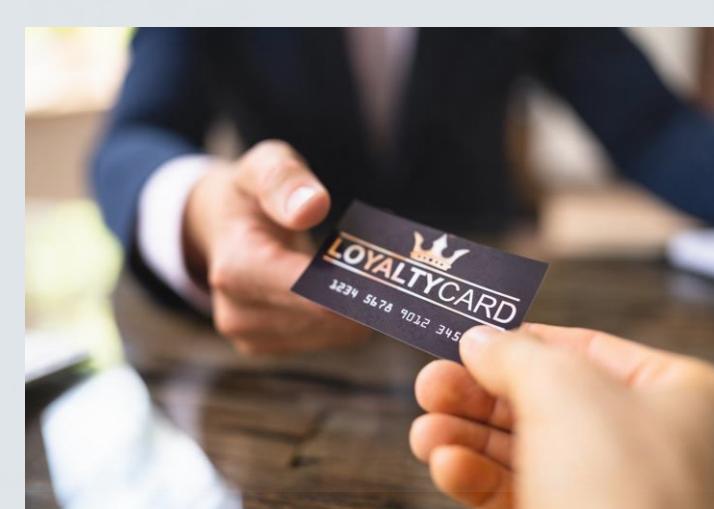
- Weather records accessible from reliable sources
- Comprehensive attendance data maintained by Toronto FC

TECHNICAL CAPABILITY



- Modern analytics tools can handle required complexity
- Existing infrastructure can support implementation

DEFINED OBJECTIVE



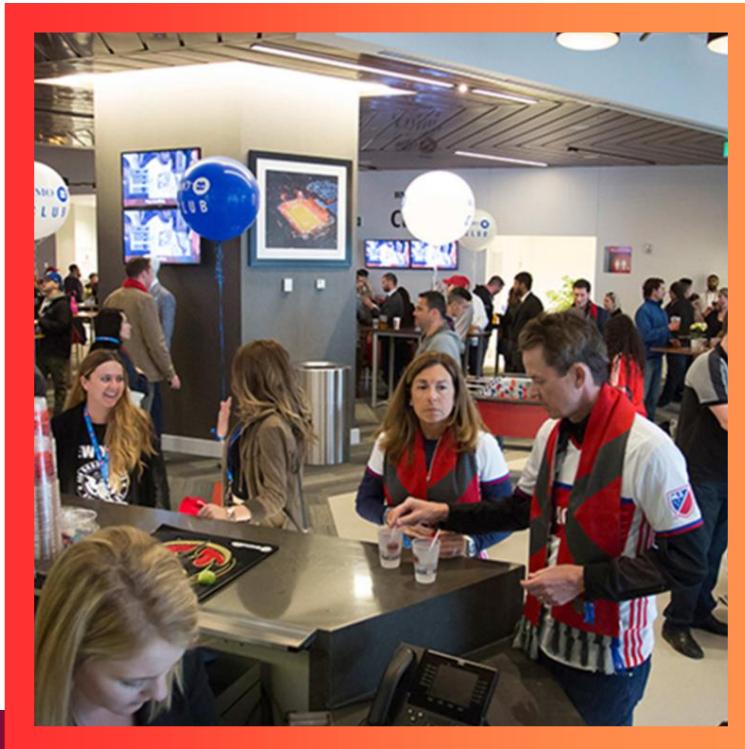
- Clear goal enables focused development
- Measurable outcomes for evaluation

RESOURCE CONSIDERATION



- Achievable with proper planning and allocation
- Potential ROI justifies resource investment

POTENTIAL ADVANTAGES



ENHANCED FAN ENGAGEMENT

Recognize and reward loyalty

CREATE A STRONGER EMOTIONAL CONNECTION WITH DEDICATED FANS

DATA-DRIVEN MARKETING

Tailor promotions based on weather forecasts

OPTIMIZE TICKET PRICING STRATEGIES

INCREASED ATTENDANCE

Incentivize attendance during typically low-turnout games

POTENTIALLY BOOST OVERALL SEASON ATTENDANCE

COMPETITIVE EDGE

Unique approach in sports marketing

DEMONSTRATE INNOVATIVE USE OF DATA ANALYTICS IN FAN RELATIONS



RECOMMENDATION

Developing the weather-attendance algorithm is **practical and valuable** for Toronto FC, enhancing fan engagement and **recognizing loyalty**. This data-driven approach will set a new standard in **fan appreciation**.

THANK YOU



REFERENCES:

- https://en.wikipedia.org/wiki/BMO_Field
- <https://www.statista.com/topics/2892/major-league-soccer-mls>
- <https://soccerstadiumdigest.com/2023-mls-attendance>
- <https://api.open-meteo.com/v1/forecast>

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