2026 ICM
Problem D: Managing Sports for Success

"The player's job is to help his team win." - Cliff Blau, baseball historian and statistician
"The player's job is to make money for the owner." – all sports team owners

Fans tend to focus on the players on the field or court, but that is only the tip of the sports business iceberg. Sports are entertainment first and foremost. Entertainment is a profit-generating business and the players are hired mostly for that purpose. Often, fans of spectator sports ignore the financial purpose of a sport and try to focus on the game itself and its participants. However, in professional sports business, the primary goal is to make money for the owner and not necessarily win games. While these two goals may be related, since winning generates more interest in the team, other factors are involved. And for some sports teams, there are crucial moments when opportunity and risk are both high – like this year's situation for teams in the Women's National Basketball Association (WNBA), the most prominent women's professional basketball league in the United States. For many reasons (especially higher fan interest), WNBA teams are hoping to evolve from risky startup businesses into major entertainment enterprises by taking advantage of increased media attention, new team franchises, larger venues, and a new digital platform to increase revenue. The owners in that league need to use sports analytics to succeed on the court but also use financial modeling to achieve significant financial gain in the bottom line of their business's profit sheet.

Should players (and other employees of the team business) in a sport get paid more for their performance that produces wins or for their contributions in turning a profit for the team owner? Sometimes, a player's sport performance is directly related to profit, but not always. Some players may attract fans based more on popularity than performance. These players may generate ticket, parking, concession, and jersey revenue much more than players with higher levels of performance. Financial and sports analytics models need to connect to create good team decision making.

In the emerging field of sports analytics with various kinds and amounts of performance data, there continue to be challenges to build statistics that quantify the value of player talents and performances (what statistic to measure, how to measure it, when to measure it). Some players are injured more frequently than others. How does that affect player value? Some have personalities that lead to more popularity and appeal that lead to financial gain. Context and timing matter in the sense that some players, even those with average performance, come through at important moments of the game or critical times in the season. There is a temporal element that must consider the measure of future potential of a player/employee on achieving the goal of the team. Some roles may be performance or skill-based and other roles are accomplished more by hard work and perseverance.

The player or team perceptions, popularity, timing, and marketing can play major roles, in addition to the location of the team. Teams in large markets often have different sports situations and goals than small-market teams. Those differences impact how owners achieve profit and recruit their players and employees. Can modeling help an owner establish methodologies for setting offers, negotiating, and writing contracts?

There are many team issues that are strictly or mostly financial, just as there are issues that are mostly sports. In many cases, professional sports teams are franchises that are part of the league enterprise and often operate with additional rules and constraints set by leagues or governments on their player salaries and contracts. These are intended to make the game competition fair with some reasonable amount of **competitive balance**. Some professional sports have systems that regulate salaries with caps or taxes. Every season, the owner must decide how much to finance with debt versus equity and whether risks in the form of seeking better team performance with associated additional costs are worth taking. In the sports business world, conditions such as revenues, salaries, injuries, trade opportunities, taxes, fees, and interest rates change over time. Sports teams are now seen as premium assets, with values in many sports soaring far beyond historical norms due to financial and market factors such as lucrative media deals and accumulation of vast data streams and intellectual property.

As a modeling group for a sports team, your ICM team can use publicly available sport and finance data for a team of your choice (the team you select must consist of at least 5 players that play cooperatively at the same time and be a member of a professional league) and build a business and management model for the team for the coming or next season.

As was mentioned earlier as an example of how this modeling work can be extremely valuable, the WNBA is undergoing significant financial changes -- record viewership, rising franchise values, and significant player benefit expectations. Currently, negotiations and demands over the revenue-sharing agreement between teams and players are sticking points. During this coming season, team owners have an opportunity to remake and improve their business or succumb to risks that may cause them to sell or take on substantial debt. These issues create a situation where solid financial and sport modeling can make a big difference for the current and future owners of these teams. You may use a WNBA team if you care to, but you are not required to do that.

Questions to consider:

Design a dynamic decision-making model that would help your team owner and general managers adjust their leverage in response to changing team performance and economic conditions. The goal is to maximize team profit and value while managing team structure and performance. The model should include priorities and actions for the management teams in both business operations and team operations, and account for systems that will help the owner make decisions through the coming season and beyond.

Based on the needs of the team and your model, develop a strategy to acquire players for next season using the standard practice for your team's league such as a **draft, free agency**, trades, transfer fees, or other standard practices. You may want to consider how to value a player or the

team dynamics in terms of the profit for the team owners. Using the outcomes of your model, discuss the strengths and weaknesses of your strategy on the business.

There are many league-determined rulings that impact how a single team can operate, such as salary caps, number of players on a roster, schedule (number, order, location, and date of games in a season, so consequently days of rest), media contracts and rights, revenue distributions, and others. If a league is expanding the number of franchises (such as for WNBA), it is likely to impact all teams in the league. Use your model to decide how your team's strategy should change from your initial strategy during a season with league expansion. How does the location for the new team impact your model and resulting strategy? Be clear on the impact on the team owners and locations for the new team that would be particularly harmful or beneficial under an expansion.

Consider one additional business decision and use your model to design the best strategy for your team. Some examples include but are not limited to:

- Ticket sales vary greatly by the size of the stadium, time of year, popularity of the team (yours and opponent), size of the team's market, and other factors. A team may choose to maximize ticket sale revenue for each game or lower the prices to have larger attendance with the possibility to convert some of those attendees into season ticket holders. How do you determine the optimal ticket pricing strategy over a season?
- The venue for the team to play its games may be rented or owned with the need to maintain, renovate, or even build a new venue. How do you balance the long-term cost of the venue when it is a short-term decision?
- Player equity in ownership can be one strategy for subsidizing large salaries, such as revenue sharing (single season), profit participation (bonus), decision makers (as part of unions or collective bargaining), long-term equity stake (part owner), or other methods. Player equity options need to be sufficiently lucrative for a player to accept it, but not undermine the future funding options. How do you determine which players, if any, are offered equity and how much?
- Media deals are a large source of revenue, fan engagement, and brand building, often producing high engagement and advertising potential. While leagues usually contract national deals, teams can sometimes broker their own local deals or streaming options. Does your team need to improve or change its media presence?
- Division or conference structure, which can build or take advantage of rivalries where rival teams play more often, is generally determined by the league. Are there ways that league structures and schedules be reconfigured to increase profit for your team?
- Determine your own issue that applies to your team or sport and use your model to help decide the issue to improve team performance or owner profit.

How does your model help management adjust when a key player is injured?

Write a one- to two-page letter to your team's owner and general manager that summarizes your recommended strategy, discusses trade-offs and risks, and reflects on how your plan supports both competitive success and financial health.

Your PDF solution of no more than 25 total pages should include:

- One-page Summary Sheet.
- Table of Contents.
- Your complete solution.
- One-to-Two-Page Letter.
- References List.
- AI Use Report (If used does not count toward the 25-page limit.)

Note: There is no specific required minimum page length for a complete ICM submission. You may use up to 25 total pages for all your solution work and any additional information you want to include (for example: drawings, diagrams, calculations, tables). Partial solutions are accepted. We permit the careful use of AI such as ChatGPT, although it is not necessary to create a solution to this problem. If you choose to utilize a generative AI, you must follow the COMAP AI use policy. This will result in an additional AI use report that you must add to the end of your PDF solution file and does not count toward the 25 total page limit for your solution.

Glossary

Competitive balance is how evenly matched the teams are in a league or competition.

Draft is a way for a sports league to assign new players to teams in an organized manner.

Free agency is a system that allows players to choose which team they will play for after their contract with a team expires.