

Jet Hockey

(300 points available + 50 extra points)

CASE BACKGROUND

This case was inspired by a real-life project that our sponsors at AG Capital have completed for their client, an organizing committee of the Ice Hockey World Championships that is about to take place in Riga, Latvia in May 2021. The goal of the project was to quantify the expected positive effect on the country's economy.

COMPANY OVERVIEW

You have been hired by the Jet Hockey Federation of Fantastan (JHFF), a fictional country that has been awarded the rights to organize next year's Jet Hockey World Championships. Jet Hockey is a fictional team game that is played 5 on 5. The players, wearing jet packs, fly around the arena and use floorball sticks to try to score by pocketing a ball into a goal, similar to the basket used in basketball. The ball is a balloon filled with a special gas, enough to keep it up in the air for a long time.

JHFF is creating a forecast for the Ministry of Tourism of Fantastan, forecasting the amount of money the incoming fans will spend during the tournament. Jet Hockey is a relatively new sport that has a different number of fans around the globe. Some teams (if they qualify for the World Championship Finals) will bring a huge number of fans to see the event live, while others will be supported only by their family and friends. Some teams come from wealthy countries and their fans will spend a lot of money, while others will probably be saving as much as possible. Finally, some countries are located just too far away from Fantastan and not too many fans will be able to come due to travel costs.

FINANCIAL MODEL

Your goal is to forecast the total amount spent by foreign fans during the tournament. This effect will vary depending on the teams that qualify and their performance during the tournament.

The statistics department of the country has provided their forecast regarding the number of people to come for the tournament from each country and their expected spending habits (see Assumptions page of the financial model). The tournament playoff grid (brackets) and exact match dates are already provided in the financial model for you.

ASSUMPTIONS

You have been provided with the following data:

- Supporters – the number of people from each country that are expected to come to Fantastan to watch the finals live (if their team qualifies for the finals). Most of these people (the ordinary supporters) will stay only until their team plays and will leave the next day after their team has lost.
 - Note that the table misses the data on Fantastan, as all Fantastan Supporters and fans are domestic and will not add to tourism spent during the tournament.
- Fans % – the percentage of supporters from each country that will come to see the whole tournament, from Round 1 to the finals, regardless of whether their team qualified or not. You can assume that these people will stay for the whole 18 days of the tournament. Do not round your calculations at any step!
 - For the purpose of this exercise, we will call the non-fans “ordinary supporters”. So, the overall supporters split into “fans” and “ordinary supporters”. Ordinary supporters come to see their team’s matches, while fans come regardless of anything.
- Spent – the average amount of Fantastan Dollars (\$) spent by each supporter or fan during one day of the championship. Remember, the longer the team plays, the more money will its ordinary supporters spend. The fans, on the other hand, will spend money during the whole 18 day period.
- Strength – relative strength of a country on a 100-point scale. **For the purpose of this analysis, you can assume that teams with higher rating always win!** If 2 teams have the same strength, then the alphabet order decides the winner (e.g., Fantastan beats Greyland).
- Seed – the spot that the team will take on the tournament grid (see Grid tab). Numbers from 1 to 16 are placed in this column exactly once. DNQ means that the country has not qualified for the tournament.

TOURNAMENT FORMAT

The tournament is played on a playoff format basis. 16 teams form 8 pairs and start playing the first round of the tournament from April 15 till April 18 (2 matches per day). The losers of these games finish their participation in the tournament, but the winners form 4 pairs between themselves and play Quarterfinal matches from April 21 till 24 (1 match per day). The losers of these games quit the tournament and the winners move on to play. This goes on until the finals are played on May 1, 2022. The only time when losers continue to play are semifinal matches. Semifinal losers later play between themselves for the 3rd place on April 30, 2022.

The tournament playoff grid and exact match dates are already provided in the financial model for you.

Round	Date
Round 1	April 15-18, 2022
Quarterfinals	April 21-24, 2022
Semifinals	April 26-27, 2022
3 rd Place Game	April 30, 2022
Finals	May 2, 2022

Assume that all the supporters, including the fans, will come to Fantastan on April 15, 2022. The ordinary supporters will leave the next day their team loses, i.e., some of them will leave on April 16, but others will stay until May 2, 2022. All the fans will stay in Fantastan until May 2, 2022 (inclusive). Remember that for the countries that haven't qualified for the finals, the ordinary supporters will not come, but the fans will do! So, each fan is guaranteed to stay in Fantastan for a total of 18 days.

At this point in time, it is not yet clear which countries will qualify for the finals, so your model will have to be flexible enough to incorporate any option. The base case scenario (Questions 1-7) allows you to test your model. It assumes that the teams are placed in the tournament grid based on the alphabet. Q8 and Q9 offer another set of teams. Q10 offers yet another set of teams, assuming that the strongest teams qualify for the finals.