

Purdue Athletics Data Mine Research Group

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Introduction

Over the past academic year, the Data Mine and the Purdue Athletics Staff have worked on various projects.

Our first project consisted of examining freshmen recruitment surveys.

- What specific aspects of the Purdue recruitment process influences a freshmen recruits' decision to choose Purdue?
- What part of the recruitment process is the most important to each team and to all the sports here at Purdue?

Another project consisted of looking at season ticket sales for the past 8 seasons. These were some questions we investigated.

- How have the Athletics Department efforts increased ticket sales in the Indianapolis area over time?
- What impact do other large regions have on the overall ticket sales throughout different seasons?

Mapping Ticket Sales

During the Spring semester, we began working with football ticket sales from the past 8 season to examine the market in Indianapolis compared to other cities and the increase of sales with our new coaching staff.

- Examined the geographical locations and manually generated a regions map
 - Split Midwest areas into specific counties based on zip codes
 - Custom region-based map created and colored based on locations (Figure 3)
- Translated the custom regions to a density map for volume of ticket sales in each area
 - Excluded Purdue campus due to the excessive portion of sales present (Figure 4)
 - Discovered a large amount of sales in northern Indiana and major surrounding cities

Sports Related Fields

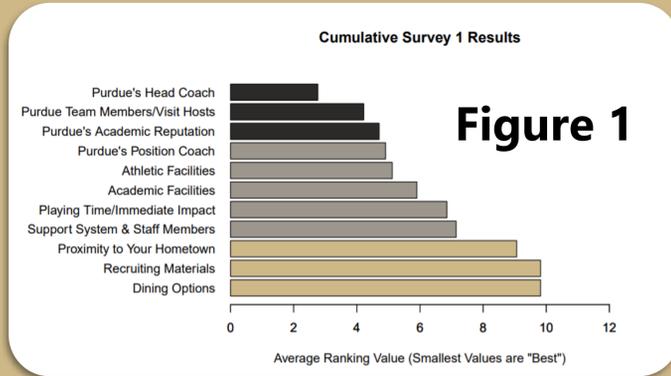


Figure 1

Athlete Survey Distributions

Examined Results for freshmen recruiting surveys to optimize the recruitment process.

- Ranking method values with 1 as the most important and the highest value as the least important
- Assessed data by using R programming to clean the data and visualize the survey results
- Head Coach and phone calls were the most impactful on players

Interpreting the graphics:

- Cumulative distribution of responses (Figure 1)
- Survey for all Sports as a whole and individually
- Impact of different recruiting tactics used(Figure 2)

Recruiting Tactics

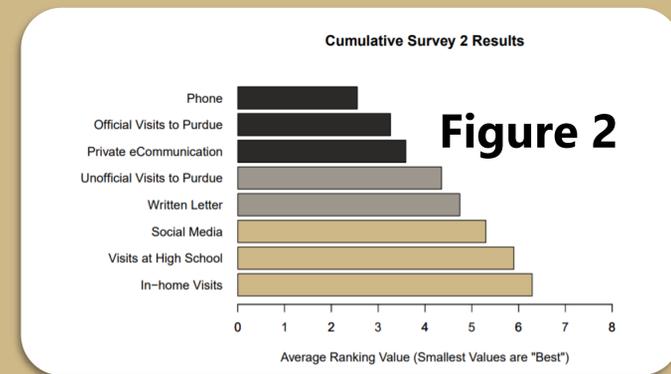
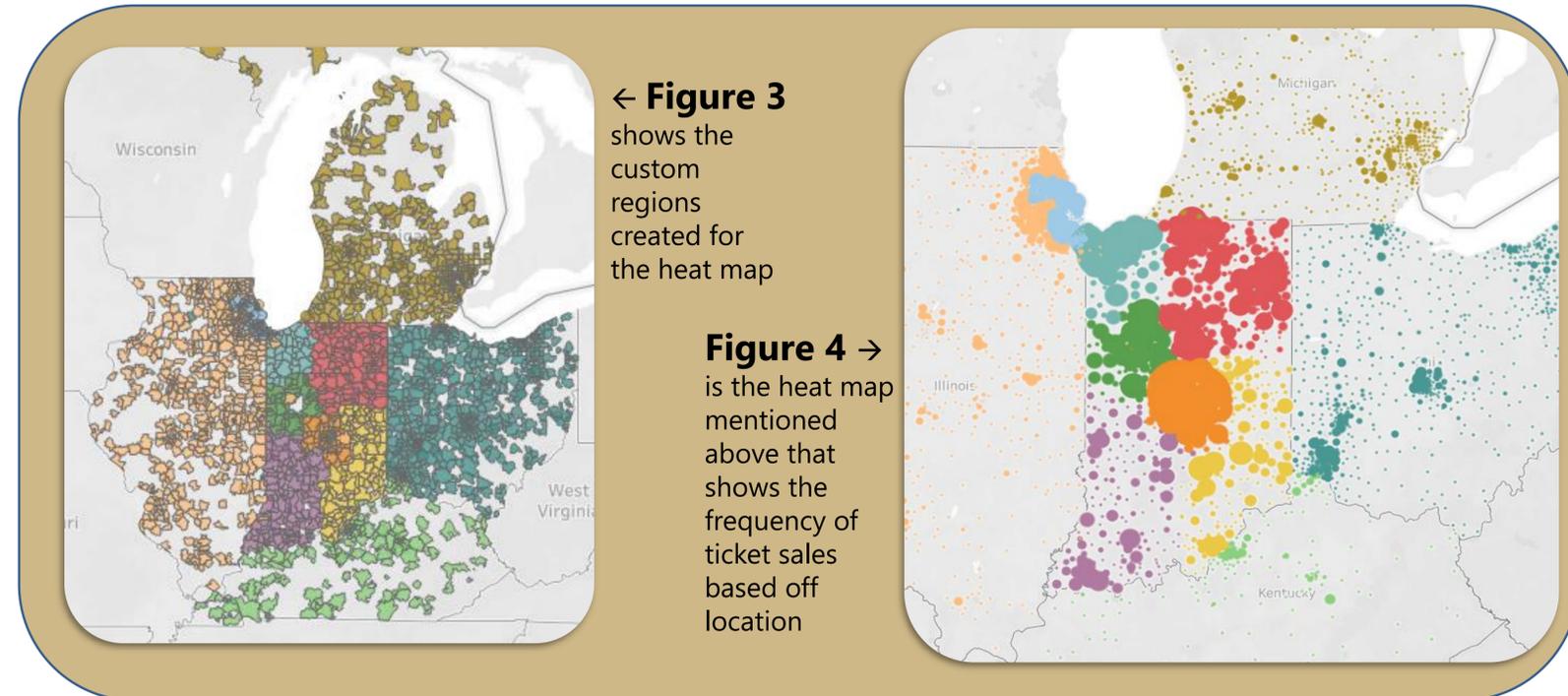


Figure 2



← Figure 3 shows the custom regions created for the heat map

Figure 4 → is the heat map mentioned above that shows the frequency of ticket sales based off location

Future Projects and Expansion

- One of the future projects we discussed and have briefly worked on was to examine the spatial analysis on the large sporting venues here at Purdue, such as Mackey Arena (Figure 5) and Ross – Ade Stadium.
- We are expanding our efforts to help the Purdue Athletics from 2 undergraduate students to almost 20 undergrads.

Acknowledgements

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- Purdue Athletics Staff – Brian Fordyce and Brooke Robbins
- Corporate Partners Staff – Dr. Mark Ward and Maggie Betz

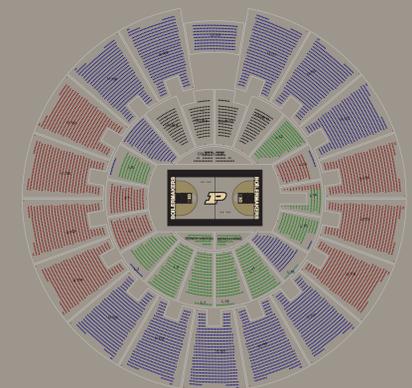


Figure 5