Using Explorium's Data Enrichment to Boost Basketball Ticket Sales

LOS ANGELES, CALIFORNIA, USA, January 14, 2021 /EINPresswire.com/ -- By now, we're all getting used to the new (less than ideal) normal in sports — watching our favorite athletes play their games in empty arenas as the coronavirus pandemic continues. However, it's not hard to think of a time in the recent past when we were lining up for tickets to our favorite arenas and teams' games. While this was great, it wasn't cheap.

The price of sporting event tickets has consistently been on the rise for years. From inflation to the massive cost of the stadiums and arenas where sports teams play, tickets today are increasingly pricing out a wide range of consumers who would love to watch games live. This has led to an unsurprising drop in live attendance.

For teams, this presents both a major problem but also an opportunity. On the one hand, sports organizations run nearly billion-dollar budgets that depend on revenues that largely come from ticket sales and concessions sold at their venues. Losing sales with untenable prices is bad business, plain and simple. There's a clear need to find a better — more dynamic — way to price tickets, but that involves too many variables to sort out, right? Organizations can't really find all the different factors and include them in their existing models if they're doing this by hand. Let's tackle this problem using Explorium's data science platform to see how enriching their data could offer a quick and easy solution.

The question: finding the features that are most important for predictive pricing models
The question here is about finding the optimal price, but not just based on average ticket prices around the league (let's assume, for this exercise, that we're focusing on the NBA). It's about understanding how much customers are willing and able to pay while still ensuring organizations profits off each ticket sold.

The goal: find the features that result in the best predictive pricing models

Using Explorium's data enrichments for better answers

Before going further, let's take stock of the data we had to begin with:

The date and time of the game being played
The visiting and home teams
The number of tickets sold (our target variable)
Whether the teams are playoff contenders
Location data on state, zip code, street address, city, and country
The arena where the game is taking place

Based on this, we could assume organization's already have a fairly robust internal dataset. However, this data can't really account for several key variables that might give their pricing model a much-needed uplift.

So before we even build a model, let's simply focus on getting the data they need into their dataset. This enrichment takes a few minutes on the Explorium platform and requires an organization's internal data and a single click.

Let's see what new data Explorium added to enrich the initial dataset.

Information about the teams playing, features such as whether the starting players for each team are in the lineup
Search engine results that can show us what potential customers are searching for and if it will lead to purchases
Income data by zip code which can help us determine things like the average income in the city where the game is being played and median family incomes
US rental statistics, which can help telling us about disposable income. For instance, one feature generated with this data is whether an individual's rent will be more than X% of a potential customer's income in the previous 12 months
Weather data that can indicate whether customers are likelier to go out and enjoy outside activities

From enrichment to [feature engineering](#) and generation

Once we've enriched the data, Explorium starts doing the hard work of actively boosting the ML models.

The first part of this goes beyond adding sources. Once the dataset is matched with as many sources as possible, Explorium proceeds to find those most relevant and rank them before continuing to the feature engineering process. From here, sources can be included or excluded by the customer or Explorium can choose for you.

Testing models and seeing uplift

Once a feature list is built, optimized, and ranked, it's time to train the models to see how well

the dataset performs. In our example, the data was able to provide an R2 score of 68.21.

Compared with your internal dataset, which scored a whopping 4.77, Explorium gave you an impressive 1330% uplift (it's worth noting that, while this is undoubtedly a great result, usually uplifts are more within normal ranges).

More importantly, however, we can see how a variety of models perform instead of testing each once at a time.

Gaining insights, deploying your model, and beyond

From here, the next step is to see the insights gleaned from the training and test models. Explorium lets you view an insight tree to see which combinations of features lead to the most accurate predictions, as well as see which features contribute the most to predictive pricing models. Additionally, this means identifying meaningful combinations of variables, and even comparing different models to determine which is best for a specific need.
Then it is possible to run predictions based on the models chosen. From there, all that's left is to deploy the model and start making predictions.

Build the models needed now, not in weeks

Keeping score? (pun intended), Explorium just built a model to predict ticket prices in under 15 minutes, including connecting to thousands of external data sources, refining internal datasets, and even building hundreds of possible features to use in a variety of models (which it also tested in parallel).
Even better, this is only a small sample of what Explorium can do. Thanks to our powerful AI-driven data enrichment engine and feature generation tools, Explorium can build models for a variety of predictive questions and use cases.

Explorium offers a first of its kind data science platform powered by augmented data discovery and feature engineering. By automatically connecting to thousands of external data sources and leveraging machine learning to distill the most impactful

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