Competitive Rate Insights with IHG

Within the last six months, the hotel and hospitality industry has collectively been making one of the most substantial shifts in revenue management since the introduction of 3rd party Online Travel Agencies (OTA) like Expedia, Hotwire, and Priceline. This shift in strategy takes the form of competing against these OTA's by offering 'member discounts' exclusively on their own reservation sites. Despite the fact that major hospitality chains, like Marriott, Hilton, and Intercontinental Hotel Group (IHG), are all moving in this direction, the methodologies are unique to each and are very new to the industry. IHG, specifically, is keen to be agile in adapting this strategy globally, but are cautious enough to be very interested in how its major competitors are approaching this new method. The Vice President of Global Revenue Management tasked one of his lead directors, Tudor Bodea, with the role of keeping an eye on their competitors; Tudor then introduced me to the team with the goal of doing more than just keeping an eye on the competitors, but to create a formal and complete strategy to consistently and systematically monitor Marriott and Hilton member discounts on a global scale. This report will briefly summarize the methodology on a high level without exposing the minute details and parameters chosen as protected by a nondisclosure agreement between the client and contracted student.

Third party online travel agencies introduced a new way for hotels to reach consumers; for a small commission of the hotel sale, OTA's give consumers the ability to see and compare the rates of most hotels in a given location. The hotel industry chose to embrace the new sales medium as their rooms became more accessible to an individual despite increasing competition. Recently, commission expenses began to out burden the benefits of the OTA's and so the hospitality industry began to take advantage of a loophole within their contracts with the 3rd party vendors: they began to offer lower prices on their own reservation websites but strictly to individuals who join as 'members'. The goal of this is to draw customers away from the OTA websites and to pocket the difference between the small discount and the larger OTA commission. Adoption of this new exclusive discount has taken place across global markets and hospitality chains, but the precise discount is constantly changed, as it is difficult to optimize revenue when the methods are so new and when the consumers are so volatile. IHG's Global Revenue Management Team then took great value and interest in gaining insights on their competitor's strategies.

I was brought into IHG to produce and implement a systematic strategy for collecting and monitoring competitor discounts. This was a three-step process: collection, cleaning, and analysis.

In collected the data, IHG opted to use a third party web scraping company. Ideally they would continuously scrape rates for every global hotel for every day in the near future, but that is extremely costly. Under the assumption that data will be scraped every four weeks, I created a sampling strategy to limit the number of hotels and the number of days to scrape, saving thousands of dollars each pull. In the end, we would only look up a fraction of the hotels in each key market/city for each global region. That request is then sent to the third party web scraping

company and they would return with the rates for the 42 dates that were sampled earlier. In the end, we are still given enough data to make up for the messiness of human errors on the scraped websites and for the inconsistencies between franchised and non-franchised hotels.

The data, several gigabytes in size, would be read into R for cleaning and to match discounted rates with the standard rates to then estimate the discount given. The data is then looked at in several different ways to establish some sort of trend: change over time, consistency between hotel brands, rates by city/market, room type, and more.

Finally the output is presented in a very simple and clear way to quickly point out the trend in applying member discounts. In addition, data is maintained in its cleaned state so that a deeper analysis can be done if required or requested as a follow up. In fact, much of the work was done to add flexibility to the process but to also make for automation in that everything from the list of sampled hotels, list of sampled dates, cleaning, and output can be done by someone completely unfamiliar with programming or with R.

In the end, the Global Revenue Management team will be presented with a simple tool with a complex process folded into it; with a few clicks they can get a quick and comprehensive view of the worldwide competitor landscape.