Sociotechnical Synthesis

STS 4600

Spring 2021

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Computer Science

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Going to the movie theater these days can either be a great experience or a bad experience. When actually looking at the factors that go into movie watching, there are few ways to have a great experience and many ways to not. For instance, the customer can be forced to sit in a seat close to the screen, watch the movie at an unfavorable time for them, or can be low quality seats/theaters. This is why I believe that movie theaters should implement dynamic pricing for movie ticket pricing. This will associate some factors that are more desired and can then give cheaper prices to customers if they have to settle for those unwanted tickets. My technical project was to use machine learning to implement a dynamic pricing algorithm that will take into account all the undesirable factors and give an optimal ticket price for customers. My STS project was to research the history of movie ticket pricing and see if there has been a trend or constant change apparent over the years.

The technical portion of my project produced a temporary dynamic pricing algorithm that offered ticket prices depending on the time of the movie showing. I selected two movies to look at and found ticket pricing at 3 different timings for each movie. I then ran those times through the algorithm and it gave an 'optimal' ticket price. I collected data from human "test customers" and 75% of them preferred the price given from my dynamic pricing algorithm more than the original price. The remaining 25% realized that the data used for the algorithm was not enough to be truly ideal and noted I needed more datasets for a better algorithm.

In my STS research, I looked at how movie ticket pricing changed over the years. At first glance, ticket pricing seemed to be so cheap back in the 1940s to 1990s, and the price kept increasing each year. But, when taking inflation into consideration, the pricing after the 1960s, skyrocketed and there had been no trend for the movie ticket pricing. Looking at each individual year, the ticket pricing was fluctuating between increasing and decreasing each year. But, when I looked at ticket prices by decade, I saw that the average ticket price in the last 3 decades has steadily increased and there is a chance that an increasing trend exists recently for the average movie ticket pricing.

In conclusion, I was able to learn a lot more from both my technical project and STS project. My technical project made me learn more about dynamic pricing and how it can be used in industries as well as IRB approval and how it is needed when collecting data from "human subjects". I also saw some potential ethical issues with how dynamic pricing might favor a certain group of people over others, but I believe the solution is that some people enjoy the movies comfortably and the rest get cheap tickets. My STS research showed me that there is no trend when it comes to individual year by year for the average ticket pricing, but there is an overall trend recently when looking at the past 3 decades. This trend could potentially continue to the next decade, which is why I wanted to implement dynamic pricing as a way to slow down this trend and lead to higher customer satisfaction.