Mercari's Price Suggestion and Modelling

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Synopsis

1. Introduction

The goal of this project is to build an algorithm that automatically suggests the right product prices for a marketplace website. The data set used in this project is of the mercari company which is a Japanese e-commerce company whose mission is to make selling easier than buying.

An 'optimum price' factors in all your costs and maximizes your margins while remaining attractive to customers. The best way to know about the data is with help of descriptive statistics. Some of the other goals is to know how every variable like: - Brand name, category of the product affects the price and how likely to be sold.

2. Motivation

Pricing decisions can have very significant consequences for the organization. It is one of the first considerations for many customers and it determines the profit margin on products.

Companies often resort to short term price reduction like offering discounts to increase sales during a short time period. There are already many shopping apps like Amazon, Flipkart etc. and competition between them is already high because it becomes very difficult to know how much something's really worth. Mercari, Japan's biggest community-powered shopping app, knows this problem. There are many seller's coming to Mercari for their product's cost. But this is tough because their sellers are enabled to put just about anything, or any bundle of things, on Mercari's marketplace.

Curiosity and ideas emerge when there is a problem to be solved. There was a need to assist the sellers with product pricing decisions. This was a very interesting field to perform descriptive statistics on. It will give us a chance to explore the entire process and find loopholes or drawbacks to enhance the business of the company and help it improve on any re-structuring if required.

3. Methodology

Problem Statement:

Online shopping is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the Internet using a web browser. It can be hard to know how much something's really worth. Small details can mean big differences in pricing. Product pricing gets even harder at scale, considering just how many products are sold online. Clothing has strong seasonal pricing trends and is heavily influenced by brand names, while electronics have fluctuating prices based on product specs.

Our goal here would be to understand Mercari dataset, Mercari, is a Japanese e-commerce company which is Japan's biggest community-powered shopping app by applying Descriptive Statistics and some machine learning algorithms that automatically suggests the right product prices. We would be able to get a broader insight or may come across the existing problem and provide its solutions or may become aware of the unknown scenarios that existed and were not known to the company.

Data Collection:

The data set used in this project is of Mercari Company, which is Japan's biggest community-powered shopping app. The data set contains 8 fields and over 1482535 rows which we may be segregating on what to keep and remove based on computational processing our systems can do accurately without failure.

Data Pre-processing:

Data preprocessing would be done prior to analysis to get the data ready before applying various analytical logics. It is good data which will provide better results. In data preprocessing, we will be performing steps like data cleaning, data imputation, data normalization, and transformation if required. Data cleaning process also includes removing null values if existing any and redundant attributes or duplicate entries from the dataset.

Implementation:

As our basic necessity is to understand mercari dataset and no other type of Data Analytics would be better to do so other than Descriptive Statistics. It not only helps in giving insights about the data but the EDA involved in it will guide us further to understand root causes of failures if any, need of implementing any new methodologies in the network and also to gain more data based on the conclusions drawn by collecting more relevant fields.

Also we will be trying to implement various Regression Algorithms based on the knowledge we gain by working on it and also we will be updating the problem statement if required.

4. Conclusion:

By doing all sorts of Analysis and predictions after implementing various ML models, we would be able to gain knowledge of a completely different domain, its working and apparently its drawbacks. It will help the company to maintain healthy relationships with the buyers as well as their sellers. And it we help will the company to suggest the appropriate price to the product, which can create a win-win situation for both the seller and buyer. Once wise man said,
"A Happy client is the best advertisement money can't buy."

References:

1. Investopedia
2. Wikipedia
3. YouTube (Theoretical Info.)
4. Kaggle (Mercari Data set)