DAT 520 Milestone One

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Research Question:

Should a homeowner choose to hire a professional or do it themselves when undertaking various home improvement projects such as renovating a bathroom or installing a patio?

Data Set:

The data set that can be used to analyze these decisions comes from the US Census Bureau American Housing Survey National Public Use Files. The most recent data set, from 2017, contains many tables with information such as general housing data, demographics, mortgage agreements and valuations. I have identified two that might be useful towards my research question. One table includes the types and costs of individual home improvement projects and another table includes aggregated information about the median expenditures of professional and do-it-yourself projects.

When I was looking through the final project topics and sources, I came across the home values topic and began exploring the data set related to the research question “How do certain modifications affect home valuation?” I am interested in this topic because I spent a few months this past summer working for a real estate appraisal business. One of my job responsibilities was filling out appraisal forms for single-family and multi-family homes and condominium units. Some sections on the forms involved identifying features and renovations that increased or decreased a property’s value in relation to similar homes in the neighborhood or town. For example, a two-car garage or a central heating and cooling system increased the value of a home by a certain dollar amount, sometimes upwards of $10,000. My boss, the licensed appraiser, always knew how much each feature or renovation changed a home’s value, and I found it interesting that someone must have performed some statistical analysis at some point to determine the appropriate amount.

As I browsed the AHS data set, I was looking for data that could help a homeowner determine whether the increase in value would outweigh the cost expenditures of undertaking a home improvement project. I found that the data pertaining to home improvements only included costs, which I believe do not necessarily correlate directly to increases in value. Finally, I came across the table that broke down the average and median costs of projects done by a professional and by the homeowner themselves. This made me consider a new research question which might be a more interesting and even a more relevant decision than just looking at monetary costs and benefits, because usually there are many other factors that go into that decision. I am hoping that I will be able to create a model that helps a homeowner decide whether they should hire a professional or do it themselves based on the cost savings and potential states of nature of the real estate market.