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Data 400

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Idea #2 – INBM

For the second idea of implementing a data science project to an International Business and Management track, I chose to analyze the effects of both GDP and cultural norms with the purchasing habits of meat. For example, India has a large population of individuals who practice the Hindi religion; most Hindi participants practice vegetarianism as well. Does this mean that India’s meat market is lacking in customers? On the other hand, consider a country like South Sudan with a very low GDP; is it possible to track the purchasing of meat, or is there more of a barter system?

When first gathering data, one must look at credible sources about GDP, meat purchasing revenue by country, and the percentage of population that practices vegetarianism. If possible, via the time constraint, it would be beneficial to analyze the reason for vegetarian practices - whether its religious, cultural, or personal choices. Starting with GDP, one can find this information from World Bank Data. Looking into GDP, the average household income, and the average cost of meat prices will allow insight into the reality of if everyday consumers or families can afford meat purchases. Then, the meat consumption statistics can be found via the Food and Agriculture Organization (FAO). This should give insights to countries where people may not go to stores to purchase the meat but rather kill an animal of their own and store it for personal consumption. The FAO, in some countries, should be able to track the worth of certain meats for more barter system areas.

The three models which would give the best analysis to these questions are multiple linear regression, clustering, and decision tree. A multiple linear regression model would use historic data to predict if GDP, population percentage of vegetarians, and the other socioeconomic factors (i.e. household income) can quantify if these factors are statistically significant on meat consumption for a particular country. Second, clustering would help in grouping countries by GDP or average household income and seeing those effects on meat consumption. Also, clustering by percentage of vegetarians and seeing how that effects meat consumption. Third, a decision tree will allow viewers to see in a non-linear relationship if these factors seem to have a relevance on meat consumption. This would be a good starting point to then use the multiple linear regression and clustering to dive deeper into what the decision tree revealed.

These findings would give ethical and valuable information to meat producers and everyday individuals. For those who enjoy consuming meat, it is important to recognize that there are places where it is not as easy as going to the store to grab food products like meat. In the capitalist perspective, meat producers, who may be looking into global expansion, can be informed of what countries would be most profitable. These findings also give relevant data as a reminder of the countries who take religion and vegetarian practices very seriously. Overall, the insights to meat consumption exhibit global patterns of vegetarian practices, GDP insights, and more.