**What problem your application solves? If it’s a new product, what is the size of the market it can address? If its A. I solution how much money can it save and what are the risks.**

This application is based on a dataset of a bank. In this Machine learning application, the goal is to predict whether a liability customer will buy a personal loan. This is a marketing strategy approach where the marketing will be focused by dividing the targets. So, this application solves the problem of predicting those customers who will buy a personal loan and who will not on the basis of few variables.

The size of the market is the whole list of customers of a particular bank. It will be a huge market if the bank is well known. Due to this there will be a lot of money saved as the whole marketing strategy will be focused and the chances to target the right customers will be very high.

**Explain your results: what was the performance of your method using metrics in class. Compare the results with other models’ example, Linear Regression vs Ridge Regression.**

The performance model used for this application was Logistic regression was provided good results. It has an accuracy score of 0.94 which means it is 94% accurate. Another model used was the Naïve Bayes which provided an accuracy of 0.879 or nearly 88%. Confusion matrix also helped in examining the accuracy by providing more knowledge of the data being predicted by comparing it to the actual data. Through this matrix we can understand 2 categories better, 1st of the customers who were predicted to accept the loan but did not accept it and 2nd of those customers who were not predicted to take personal loans but took it.

**What is the monetary value and Risks of your application after its performance? How much money can you save?**

With the help of analysis and confusion matrix, it can be said that there are few risks with this as well. It is not 100% accurate, so the time when model predicts something wrong there will be a loss. If few customers are not targeted in the marketing target category, then they will not be in focus and it may lead them to not take the loan eventually, which can be a loss for the bank. On the other hand, it can also save a lot of money, for example there were few customers who were predicted to take the loan even when they may have not taken it. So due to this prediction they will be very focused by the bank for marketing and convincing. This may lead them to eventually taking the loan.

**Other risks and benefits?**

Other risk or benefits of this application can be the long-term implementation. It can have advantage as well as disadvantage. If this application is used by the bank for a long-term prediction, then it can help them to make a marketing strategy to target those customers for a long time and be able to convince them provide a good offer for buying a personal loan or other purposes based on their data. On the other hand, over the time there will be more variables added or removed from these predictions. There may be other factors other than these already defined variable that could have been more impactful. So, this application should be modified from time to time, or it will become more and more unstable. Security is also another major risk. As this application contains data of lot of customers. So, if personal data is collected for prediction purposes it can be a security issue. Although personal data is not required as such for this analysis and should not be taken.