

## Case-Draft: City of St Gallen

We are currently working on the code to deliver the following insights.

### Analysis of the willingness and ability of paybacks from different recipients' profiles:

We are working on a model to estimate the influence of the observed variables in the dataset on the repayment probability. The goal is to figure out what the people who pay back their loans have in common and look for these characteristics in the group of people who don't pay back. We consider people who have the same characteristics but do not pay back as potential candidates for an intervention.

We're working on estimates using logistic regression models and tree-based modelling. Comparing the outcomes of these two methods, we'll optimize the model to deliver the best accuracy possible. The model should tell how likely a person is going to pay back according to the variables we have in the data set.

### Application to support the decision-making process of social workers:

The goal in step two is to make the model accessible to social work professionals who do not have an extensive background in statistics and programming. We are working on an R Shiny web application. With that application, the social workers can insert the characteristics of the concerned person and get an estimate on how likely they should be able to pay back the loan in comparison to social security recipients with similar characteristics. While this application cannot replace an individualised assessment of the situation by the social worker, it can serve as a data driven tool to support their evaluation.

### Suggested Implementation to increase realistic repayments:

In order to increase the number of repayments, we suggest concentrating public resources on the individuals most likely to repay according to our model. This includes but is not limited to the following approaches:

Social workers should implement a proactive communication strategy during the meetings with the social security recipients. Using the information from the model, the topic of repayment should be brought up on a regular basis and be given serious consideration. Secondly, additional pressure could potentially be applied by using techniques used by NGOs for fundraising. This could include notifications or some sort of community building approaches.

Finally, allowing social workers to get better access to the financial situation of the social security recipients could improve the repayment ration to a great extent, giving them facts which they could use in the discussion.