**Forecasting Change in Cash**

Description

All of Company’s business units require cash to pay for goods and services every month. There are months where some businesses may not have cash on hand to pay for the expected goods and services and there may be other times where they have excess cash. These variations in cash across the company lead to opportunities to transfer funds between cash accounts of different businesses. Each business makes estimates on their expected cash needs, the difference between expected account balance and expected accounts payable, for upcoming months and transfers can be made accordingly. However, this process is often times reactive, labor intensive (manual), and inconsistent across BUs. Furthermore, when money is transferred and converted to local currency, there are times where it may not be used as expected in a given month (delayed arrival of goods, services, etc).

During the month many external economic factors can impact local inflation rates or currency conversion rates. Excess cash may have its value reduced solely by being in one account versus another. And not having enough cash can create bottlenecks and delayed purchasing which could have financial consequences to company. Being able to accurately forecast change in cash can help protect Company’s cash values and improve purchasing power.

As part of this project, you will be asked to forecast the change in cash for accounts for the month July 2019, given historical cash changes for January 2015-June2019.

The project data consists of three files:

monthly\_data\_training.csv - aggregated monthly data for each account to be used in doing test/train splits to build model(s)

scoring.csv - aggregated monthly list of accounts and time period (July 2019) for which you will make your predictions

transactions2015-June2019.csv - detailed transaction view that can be used to generate features, conduct EDA, etc for the data already aggregated in monthly\_data\_training.csv.

<https://towardsdatascience.com/5-machine-learning-techniques-for-sales-forecasting-598e4984b109>

Language R

Models in

Regressive Models: Linear Regression, Random Forest Regression, XGBoost

Long Short-Term Memory (LSTM)

Objective:

Forecasting Change in Cash using regressive and time-series modeling techniques

Follow

Use Featured Techniques:

EDA

Linear Regression

Random Forest Regression

XGBoost

Long Short Term Memory (artifical recurrent neural network)

ARIMA Time Series Forecasting

Results:

Compare the obtained results

Write the result in a csv file in the following format:

Describe your thoughts and doings.

