```python
In [47]:   def robust(train_data):
               '''
               making robustness predictions
               '''

               for i in range(12, 6, -1):
           #       print(i)
           #       print(train_data.truncate(after=train_data.index[-i]).index)
                   robust_forecast = make_predictions(train_data.truncate(after=train_d
                   submission = make_submission(robust_forecast, train_data)
                   submission.to_csv(f'robust/submission{i-6}.csv', index=False)

In [ ]:
```

Main

```python
In [48]:   if __name__ == '__main__':

               print('Reading files')
               full_data, target_data, test_data = read_file()
           #     smooth(target_data)

               print('Making full forecast')
               full_forecasts = make_predictions(target_data)
```

```
Reading files
Making full forecast
"SARIMAX" for "Segment 2Sandesh Brand 1 / Sandesh Brand 2 - Segment 2Broadb
andFalconAverage revenue per new customer - Falcon"
best params from SARIMAX:(1, 1, 1), seasonal: (1, 1, 0, 12)
"SARIMAX" for "Segment 2Sandesh Brand 1 / Sandesh Brand 2 - Segment 2Broadb
andFalconAverage revenue per existing customer - Falcon"
best params from SARIMAX:(1, 1, 1), seasonal: (1, 1, 0, 12)
"SARIMAX" for "Segment 2Sandesh Brand 1 / Sandesh Brand 2 - Segment 2Broadb
andFalconGross Adds - Falcon(Norm)"
best params from SARIMAX:(1, 1, 1), seasonal: (1, 1, 0, 12)
"SARIMAX" for "Segment 2Sandesh Brand 1 / Sandesh Brand 2 - Segment 2Broadb
andFalconNet Migrations - Falcon(Norm)"
best params from SARIMAX:(1, 1, 1), seasonal: (1, 1, 0, 12)
```

```python
In [ ]:   submission = make_submission(full_forecasts, train_data)
          # submission.to_csv('output/prediction.csv', index=False)
```

```
In [58]:    ▶ evaluate(full_forecasts, test_data, target_data, plot=True)
```
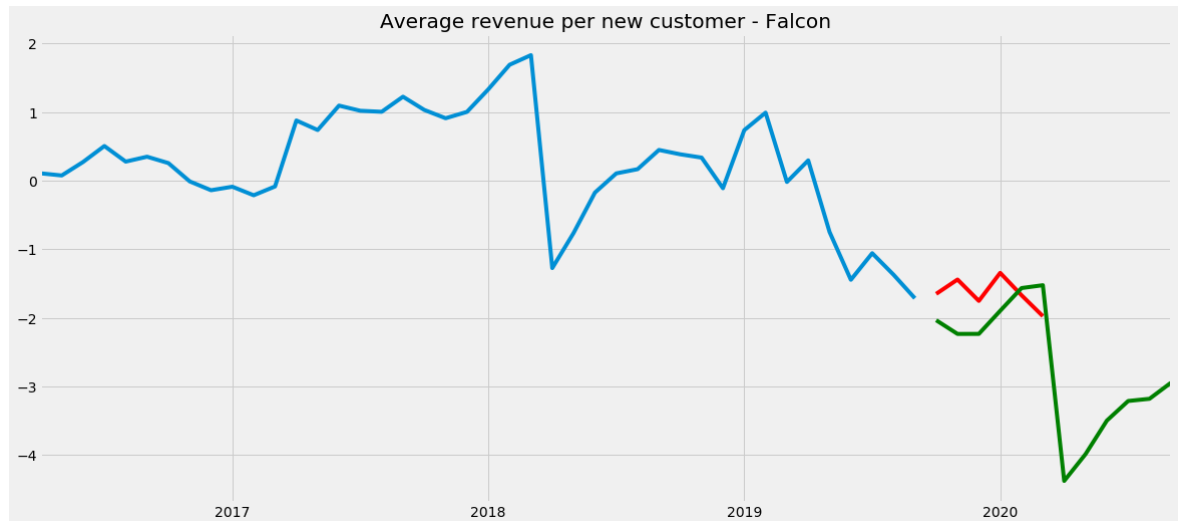
For "desh Brand 2 - Segment 2BroadbandFalconAverage revenue per new custome
r - Falcon" with model "SARIMAX"
MAPE : 0.2933749532258787
Threshold : 0.1, Target: 0.05
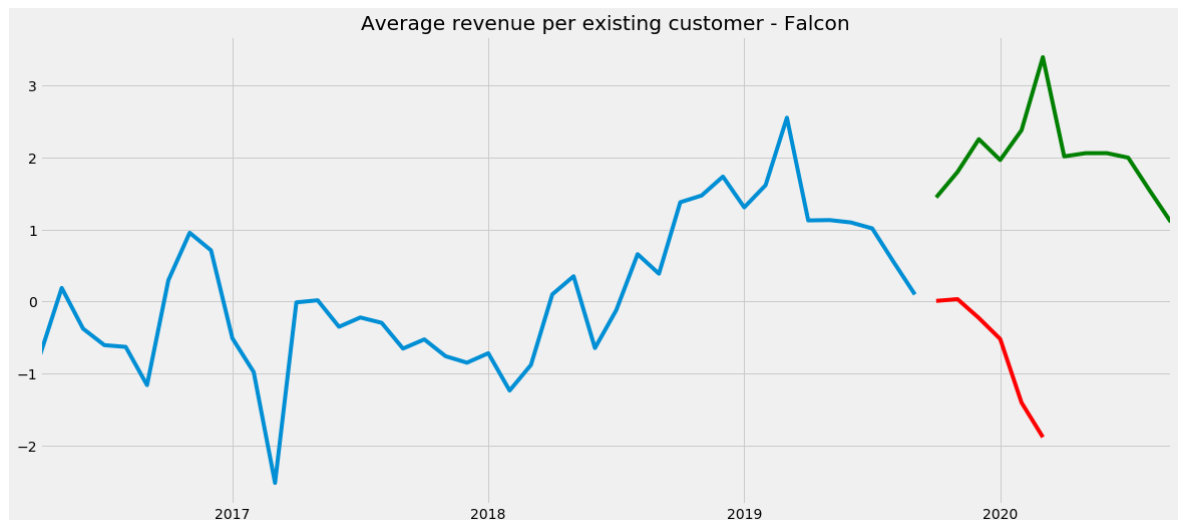Raw score : 0.7066250467741213
Threshold score : 0

For "desh Brand 2 - Segment 2BroadbandFalconAverage revenue per existing cu
stomer - Falcon" with model "SARIMAX"
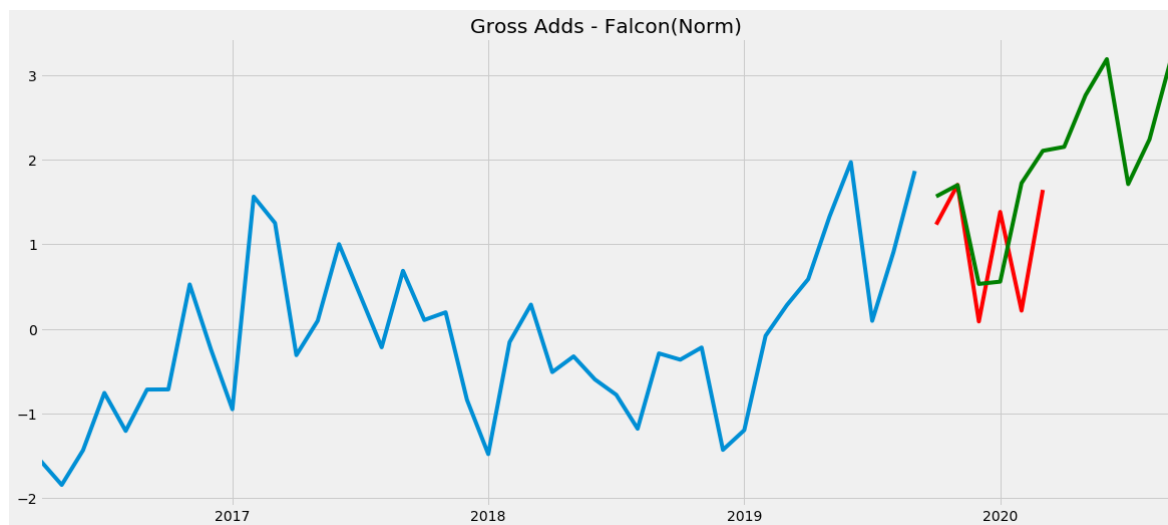MAPE : 38.34322992979755
Threshold : 4.5, Target: 3.0
Raw score : 0.0
Threshold score : 0

For "desh Brand 2 - Segment 2BroadbandFalconGross Adds - Falcon(Norm)" with model "SARIMAX"
MAPE : 2.200876812472711
Threshold : 5.0, Target: 3.3
Raw score : 0.47526730284345553
Threshold score : 0.07

For "desh Brand 2 - Segment 2BroadbandFalconNet Migrations - Falcon(Norm)" with model "SARIMAX"
MAPE : 0.7411877573931017
Threshold : 0.25, Target: 0.18
Raw score : 0.290660623727778
Threshold score : 0
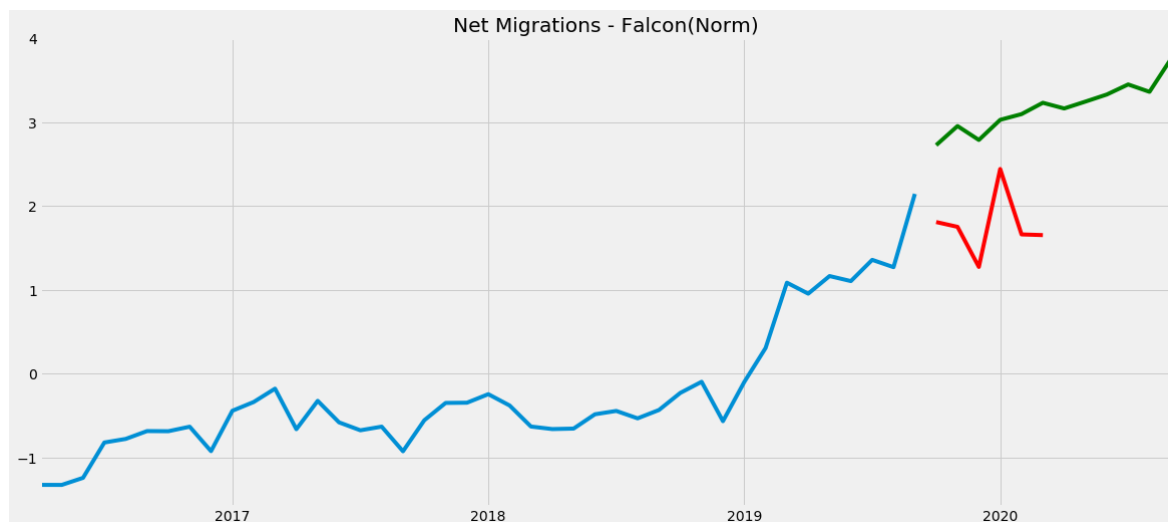
```
Final Raw score : 0.3681382433363387
Final Threshold score : 0.07
```

In [ ]: ▶|

In [ ]: ▶|

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