

Data Science Bootcamp Capstone Project 1



Project Description

This capstone project includes 2 separate tasks.

Please, submit your solutions to homework@dsa.az by August 8, 23:59

1-Performance Analysis

At this stage, you are required to put all your Tableau knowledge into action. We test your ability to choose right type of charts and to make dashboards as much as user-friendly. Apply each possible concept have been covered during bootcamp to keep dashboards compact.

Submission deliverables (PerformanceAnalysis.zip):

1. 1 Tableau desktop file (twb) of 2 dashboards only.
2. Text document of answers to the questions.

2- Voice Revenue Analysis

In this part, your approach to specific business problems and communicating your results from analytics are tested. You are free to craft your own dashboard design using different visualization techniques.

Submission deliverables (VoiceDeclinersproblem.zip):

1. 1 Tableau desktop file (twb) of 2 dashboards.

Performance Analysis

INTRODUCTION

You work as a data analyst in Telecom Company. During week, you receive several ad-hoc requests from marketing and CRM department about the performance of tariffs for different KPIs for different time periods. So you decide to prepare dynamic dashboards conveying all required insights.

Take a time to think about the best ways to visualize each request and keep in mind that dashboards should have optimal number of charts. Apply design elements (color, label, titles, tooltips, sorting, filter, parameter etc.) to make dashboards user friendly.

DATA

You are provided with one excel workbook of daily revenues and number of subscribers for different tariffs. Data manipulation methods like joining different sheets and simple calculations might be required to complete analysis..

Consideration:

For each row (each day and tariff):

Average Revenue Per Subscriber = Total Revenue/ Number of Subscribers

Average Voice Revenue Per Subscriber = Total Voice Revenue/ Number of Voice Subscribers

Average Data Revenue Per Subscriber = Total Data Revenue/ Number of Data Subscribers

Average On-net Revenue Per Subscriber = Total On-net Revenue/ Number of On-net Subscribers

Average Off-net Revenue Per Subscriber = Total Off-net Revenue/ Number of Off-net Subscribers



Weekly KPI performance Analysis

KPI List: Total Revenue, Minutes of Usage, On-net Minutes of Usage, Off-net Minutes of Usage, MB of usage)

Build Weekly KPI performance Analysis dashboard by following instructions.

1. USE KPI list as Parameter.
2. Weekly time plot of each KPI
3. List top 5 tariffs for each KPI in the last week and growth rate for each of them.
4. Performance of each KPI in the last week
5. KPI growth in the last week. If it's negative write "ALARM!! 'KPI' decreased % in the last week.",
if it's positive write "Good news!!! 'KPI' increased % in the last week."

Daily Revenue Performance Analysis

Build Daily Revenue performance Analysis dashboard by including following analysis.

1. Total revenue
2. Revenue proportion of each tariff
3. Compare tariffs on daily basis for :
 1. average revenue per subscriber
 2. average voice revenue per subscriber
 3. average data revenue per subscriber
 4. average on-net revenue per subscriber
 5. average off-net revenue per subscriber
4. Visualize cluster of tariffs for the voice and data revenue. Add daily timeline of voice and data revenue for that tariff as tooltip.
5. Portion of data revenue in the total revenue for each tariff

After creating dashboard, answer following questions:

1. Which tariff has the highest revenue on January, 2019?
2. Which tariff has the highest data revenue growth in last month?
3. For which tariff data revenue is higher than other types of revenue?

Voice Revenue Analysis

Introduction

Board of directors realizes that total voice duration constantly declines. Directors have some suspects about reasons. Data is limited. It is impossible to determine significant predictors of decline with available data. Any kind of insight from available data is valuable for managers to better understand problem. You are expected to use different visualization techniques to support boards' suspects.

Focus on describing people with decline in voice duration and find out which factors may be related to the decline.

Data

You are provided with one excel workbook of 4 months of usage history of anonymised subscribers for different tariffs. Some data manipulation methods like joining different sheets and simple calculations might be needed to complete analysis.

Subscribers Profile Analysis

Build a dashboard to analyze questions below and write your answer to each question on the dashboard:

1. Did voice duration decrease more for the subscribers:

- a. with higher MB of usage?
- b. with higher average revenue per subscriber?
- c. with higher minutes of usage?

2. Did voice duration decrease for all top 10 tariffs with highest voice revenue?

3. Which tariff's voice duration decreased most?

4. Did tariff 5 subscribers' voice duration decrease more for those with higher MB of usage?

5. Were the answers to the above questions same if analyzed for the subscribers whose voice duration decreased more than 50%?

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