

Practical Exam – Churn at Fit.ly

You are a Data Analyst who has just joined Fit.ly Tech, a subscription-based fitness app. You have received the following email from your manager:

| | |
|------------------|---------------------------------|
| From: | Head of Analytics |
| Received: | Today |
| Subject: | New task from senior leadership |

Hi,

I want to get you started on something that's top of mind for leadership here at Fit.ly Tech.

Over the past two quarters, we've noticed churn creeping up in our subscriber base. Retaining customers is absolutely critical for us right now — our cost of acquiring new users is rising, and every customer who leaves puts more pressure on Marketing and Product. Leadership has asked us to come back with a clear picture of what's driving churn and some practical actions we can take heading into the next quarter.

We've pulled together a dataset from a few different sources (user activity, customer support, and account information). The files are messy — the data come from different teams, use different conventions and don't always align in how fields are structured or captured. That's life in the real world, but it's also why this analysis is important.

Use these data as your starting point for a churn analysis, making sure you include engagement, support activity, and plan type — those are things the business cares about. Focus on identifying patterns, potential drivers of churn and any KPIs you think leadership should be paying attention to.

I would like you to perform the analysis and write a short report for me. I don't need to see any code, but I do want to read your thinking, how you handled any data cleaning and interpretation, and how you got to your conclusions.

I've already asked the Product Manager and the Lead Engineer a few questions about the data; you can see their answers [here](#) and [here](#).

I also want you to prepare and deliver the presentation to senior leadership — you are ready for the challenge! Remember they're not data specialists and will be focussed on what they can do to address the problem of churn.

You can find more details about what I expect you to do [here](#).

I will be on vacation for the next couple of weeks, but I know you can do this without my support. If you need to make any decisions, include them in your work and I will review them when I am back.

Thanks!

Data Information

The data hasn't been validated, so make sure that you check it against all of the information in the table before you start your analysis.

Download the data by clicking these links:

[Account info](#)

[Customer support](#)

[User activity](#)

| DataFrame | Columns |
|------------------|--|
| account_info | customer_id, email, state, plan, plan_list_price, churn |
| customer_support | ticket_time, user_id, channel, topic, resolution_time_hours, state |
| user_activity | event_time, user_id, event_type |

Guide to Analysis Projects

1. I would like you to create a written report to summarize the analysis you have performed and your findings. The report will be read by me (Head of Analysis). The list below describes what I expect to see in your written report.
2. You will need to use a DataLab workbook to write up your findings and share visualizations.
3. You must use the data provided for the analysis.
4. You will also need to prepare and deliver a presentation. You should prepare around 8-10 slides to present to senior leadership. The list below describes what they expect to see in your presentation.
5. Your presentation should be no longer than 10 minutes.

Written Report

Your written report should include written text summaries and graphics of the following:

- Data validation:
 - Describe validation and cleaning steps for every column in the data
- Exploratory Analysis to answer the customer questions ensuring you include:
 - Two different types of graphic showing single variables only
 - At least one graphic showing two or more variables
 - Description of your findings
- Definition of a metric for the business to monitor
 - How should the business monitor what they want to achieve?
 - Estimate the initial value(s) for the metric based on the current data?
- Final summary including recommendations that the business should undertake

Presentation

You will give an overview presentation to senior leadership. The presentation should include:

- An overview of the project and business goals
- A summary of the work you undertook and how this addresses the problem
- Your key findings including the metric to monitor and current estimation
- Your recommendations to the business

Grading

Before submitting your written report or delivering your presentation, remember to check your work against the grading criteria.

You can find the full grading rubric [here](#).

You must pass all criteria to pass this part of the certification.