

Trial Behaviour

Data Analyst Task

Business Problem

The Activation product team wants to improve the efficiency of converting trialists into paying customers by creating better user experiences. They would like to explore how trialists behave during trials to identify opportunities of feature and onboarding improvements.

Data

You've been provided with a raw dataset of behavioral events from users that started their trial between January and March of last year.

The dataset has the following table schema:

organization_id	activity_name	timestamp	converted	converted_at	trial_start	trial_end
0040dd9ab132b92d5d04bc3acf14d2e2	Scheduling.Shift.Created	2024-03-27 11:03:53	False	NaT	2024-03-27 10:11:39	2024-04-26 10:11:39
00456fd86311b6095ad05f7e31758f0d	Absence.Request.Created	2024-01-11 13:49:19	False	NaT	2024-01-11 13:44:36	2024-02-10 13:44:36
014f83e0deae3ac42041a126f1022974	PunchClock.PunchedIn	2024-03-19 10:48:32	True	2024-04-12 10:48:32	2024-03-19 10:46:04	2024-04-18 10:46:04

In **Attachment 1** you can find a description for the activities users have done during their trial.



Task




Given the information provided to you above, please do the following:

1. Explore and clean the data set with Python.
2. Run some descriptive analyses and create visualizations in your tool of choice to inform the product team's decision-making. Also consider commonly used product metrics you can derive from the data.
3. What additional data would be valuable to include in the analysis and why?

Please provide your solution in a **git repository** with your full code.

Attachment 1: Descriptions of activity_name

 Scheduling & Shifts	
Scheduling.Availability.Set	Setting availability for scheduling
Scheduling.Shift.Created	Creating new shifts
Scheduling.Shift.AssignmentChanged	Last-minute shift assignment changes
Scheduling.Template.ApplyModal.Applied	Applying shift templates
Scheduling.ShiftSwap.Created	Requesting to swap shifts
Scheduling.ShiftSwap.Accepted	Accepting a shift swap (can be by an employee or admin)
Scheduling.ShiftHandover.Created	Requesting to hand over shifts
Scheduling.ShiftHandover.Accepted	Accepting a shift handover (can be by an employee or admin)
Scheduling.OpenShiftRequest.Created	Requesting open shifts
Scheduling.OpenShiftRequest.Approved	Approving open shift requests (as admin)
Mobile.Schedule.Loaded	Viewing the overall schedule
Shift.View.Opened	Viewing details of specific shifts
ShiftDetails.View.Opened	Viewing details of specific shifts
 Absence Management	
Absence.Request.Created	Creating absence requests
Absence.Request.Approved	Approving or rejecting absence requests
Absence.Request.Rejected	Approving or rejecting absence requests
 Time Tracking (Punch Clock)	
PunchClock.PunchedIn	Clocking in to work through the punch clock
Break.Activate.Started	Starting a break period during a punched shift
Break.Activate.Finished	Ending a break period during a punched shift
PunchClock.PunchedOut	Clocking out of work through the

	punch clock
PunchClockStartNote.Add.Completed	Adding a note when punching in
PunchClockEndNote.Add.Completed	Adding a note when punching out
PunchClock.Entry.Edited	Editing time clock entries
 Approvals & Payroll	
Scheduling.Shift.Approved	Approving shifts for payroll
Timesheets.BulkApprove.Confirmed	Approving timesheets
Integration.Xero.PayrollExport.Synced	Syncing payroll with external systems
 Financials	
Revenue.Budgets.Created	Creating manual budget entries or setting payroll budget percentages
 Communication	
Communication.Message.Created	Sending team communications