**Project: Free-to-paid conversion ratio using SQL**

**Code:**

-- Calculate metrics to analyze student engagement and purchasing behavior

SELECT

-- Calculate the conversion rate: percentage of students who watched content and made a purchase

ROUND(COUNT(first\_date\_purchased) / COUNT(first\_date\_watched),

2) \* 100 AS conversion\_rate,

-- Calculate the average number of days between a student's registration and their first content watch

ROUND(SUM(days\_diff\_reg\_watch) / COUNT(days\_diff\_reg\_watch),

2) AS av\_reg\_watch,

-- Calculate the average number of days between a student's first content watch and their first purchase

ROUND(SUM(days\_diff\_watch\_purch) / COUNT(days\_diff\_watch\_purch),

2) AS av\_watch\_purch

FROM

(-- Select columns to retrieve information on students' engagement

SELECT

e.student\_id,

i.date\_registered,

MIN(e.date\_watched) AS first\_date\_watched, -- Earliest date the student watched content

MIN(p.date\_purchased) AS first\_date\_purchased, -- Earliest date the student made a purchase

-- Calculate the difference in days between registration date and the first watch date

DATEDIFF(MIN(e.date\_watched), i.date\_registered) AS days\_diff\_reg\_watch,

-- Calculate the difference in days between the first watch date and the first purchase date

DATEDIFF(MIN(p.date\_purchased), MIN(e.date\_watched)) AS days\_diff\_watch\_purch

FROM

student\_engagement e

JOIN student\_info i ON e.student\_id = i.student\_id

-- Left join the student\_purchases table to get purchase data (if it exists) for each student

LEFT JOIN student\_purchases p ON e.student\_id = p.student\_id

-- Filter out records where:

-- 1. A purchase was never made OR

-- 2. Content was watched on or before the first purchase

GROUP BY e.student\_id

HAVING first\_date\_purchased IS NULL

OR first\_date\_watched <= first\_date\_purchased) a; -- Alias the subquery as 'a' for use in the main query

**Objective**

This project aims to analyse 3 principal engagement values for an online course platform in order to give a glance at the state of the profitability of the course platform. Despite its simplicity, this project gives relevant information as an example of what can be shared with stakeholders to make data-driven decisions to improve business profitability. Analysis

Conversion rate

The first value analysed will be the conversion rate. According to ispring’s blog’ on “How to price your online course…” the average conversion rate for online courses platforms runs from 1,5-5%. Taking into account this range, the conversion rate, obtained from the 365 data database, of 11,29% should be great news, at least in general, however it’s not as simple as that, we also have to take into account other facts like the price of each membership needed to reach our goal revenue, the reach that we need to get to those goals and the reach that we have at the moment. Another way to rephrase the first, is that the cheaper the price of the digital content, the higher the conversion rate that we will need to aim for. Another important aspect to consider should be historical data, both personal and public one, for example, we may be a startup company rising now and the numbers for our past month was half of the analysed one, on another example, maybe we are a middle growth company and we see our numbers decay from past years, however, we check on other similar companies trends (when accessible) and we notice a similar pattern, it may be another issue that’s outside of our control but that is important information to know that we may be doing well and we just need to keep up with the consumer trends going on at the moment, it’s all about finding solutions and creating new pathways.

Registration to first-time engagement time

The time it takes for students from registration on the platform to their first watched lesson may give us relevant information, if the times are short, it could indicate that the whole platform is user friendly and generates interest from students to engage in their first lesson. On the contrary a longer duration may indicate that we may need to work on making the platform either more user friendly or interesting enough to make newcoming students to engage for the first time as soon as possible.

First-time engagement to purchase time

The conclusion for this value would be similar if not identical to the previous one, however, it is to be analysed in a less strict way. This time is crucial as it represents how good of a job the business is making at creating engaging content that people would actually spend their money on, but this time waiting for a longer time doesn’t necessarily represent that our content is not as engaging as intended, maybe costumers are looking forward to a period of time where they know this kind of content or any other may be cheaper, like black Friday for example.