

Massive Online Open Course Analysis – Educative

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Introduction

As a Data Analyst working for the education tech company Educative, I have been asked by the manager, Head of Curriculum at Educative, to present the insights on course revenue. I have been provided with data on courses from different topics to understand where opportunities to increase revenue may lie, and track the performance of courses.

Objective

Generate a report for the CEO based on the manager's suggestion to encourage Web Development courses to charge more, believing that these are the most popular courses.

Tasks

- Prepare the data for analysis (Data Cleaning)
- Analyze the data in MS Excel and Power BI
- Interpret trends and identify key areas
- Make recommendations or propose solutions

Data Collection and Cleaning

- Imported the data sheets and consolidated the data in MS Excel
- Removed Duplicates
- Removed Blank Cells
- Found and Replaced 'Subject: Web Development' with 'Web Development'

Analysis and Insights

Descriptive Statistics

To get a general overview of the data being worked with, the following were identified over the period under consideration:

- Lectures
 - 229 distinct lectures
 - 148,000 total administered lectures
- Subscribers
 - Total of 11,760,483 subscribers

- 8,173,932 on paid courses
- 3,586,551 on free courses
- Courses
 - 2 course types-paid and free
 - 3,676 courses
 - 3,365 paid courses
 - 311 unpaid courses
 - Average course duration is 4.09 hours
- Price
 - 66.12 average price per course
 - 200 highest course price
 - 20 lowest course price
- Reviews
 - 574,595 total reviews received
- Revenue
 - Created a Revenue column by multiplying the price by the number of subscribers for each course
 - \$885,160,005 in total revenue

Analysis By Subject

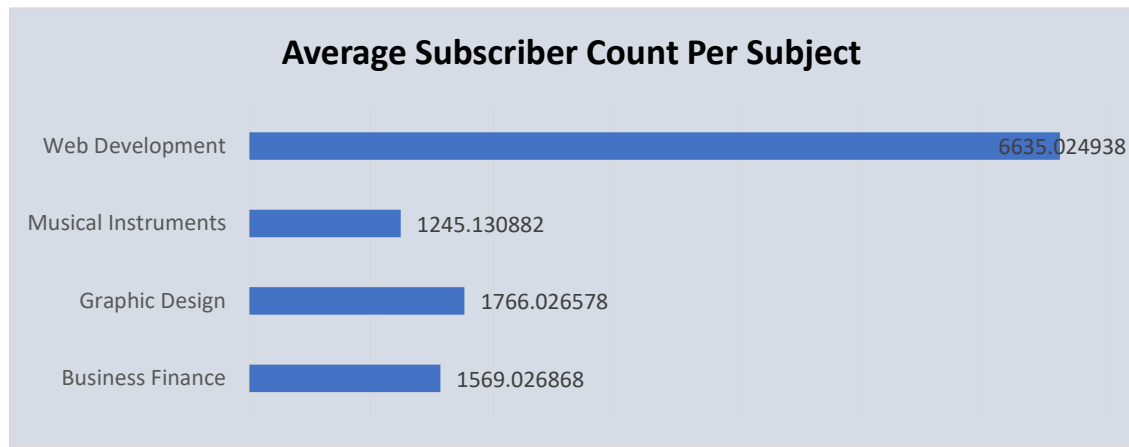
This focuses on generating charts that give life to the data from the perspective of each subject. This provides an opportunity to establish and compare relationships between variables. To do this, the following were determined:

- Total subscribers by subject
- Total lectures by subject
- Average price by subject
- Total reviews by subject
- Average duration by subject

Web Development was the most subscribed subject (8million subscribers) while Musical Instrument was the least subscribed (846,689 subscribers). Web development was the only subject on the platform in 2011, so this may have marginally contributed to the high total number of subscribers over the review period. Also, Web Development and Business Finance were the most expensive subjects on average, and this may have been because they had the greatest number of lectures. A Business Finance course for instance cost \$68.69 on average and has 38,663 lectures in total, whereas a Musical Instrument course cost \$49.56 and has a total of 26,055 lectures. The highest average price for all subjects was observed in 2017, on the high end a Web Development course cost \$86.27 on average, while on the low end a Musical Instrument course cost \$51.34.

Analysis by subject indicates that 2 of the four subjects are very popular, only a small proportion of subscribers leave reviews. The most popular subjects Web Development and Business Finance are also the most expensive on average.

The slicers for these analyses were date (year).



Analysis By Level

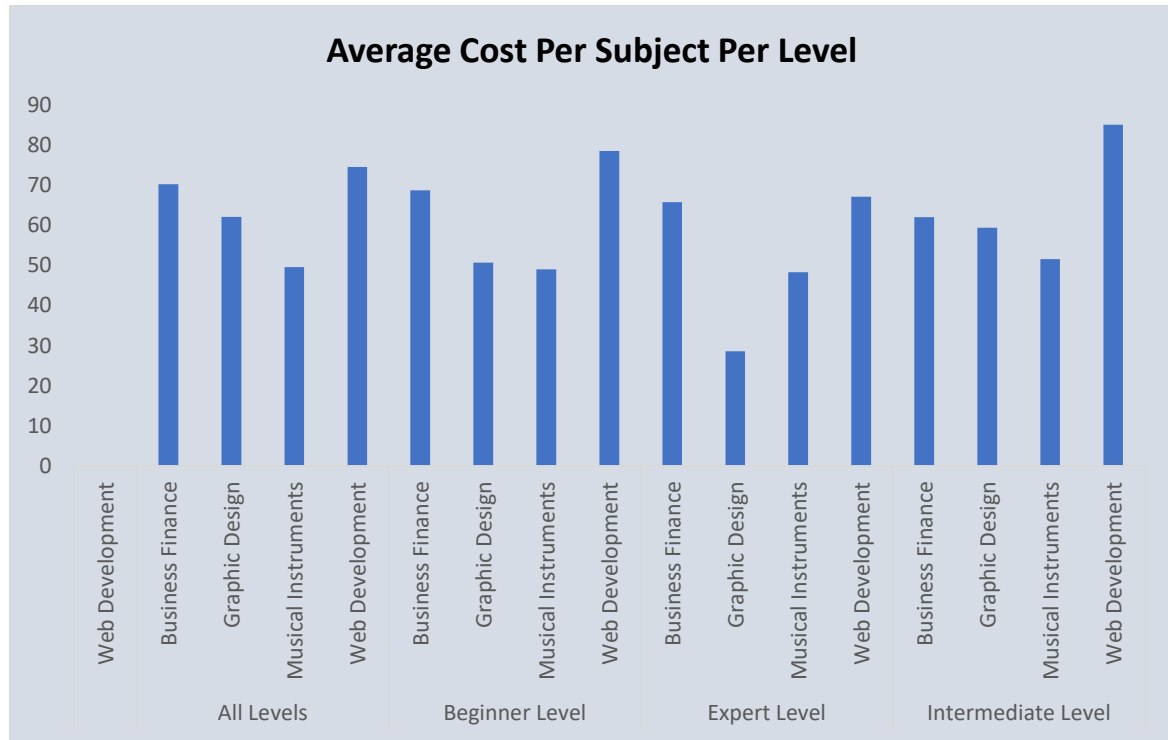
To further establish relationships within our dataset, a comparison based on the level of subscriber skill was analyzed. The following were the parameters for such comparisons:

- Average duration of course by level
- Average price by level
- Total subscribers by level
- Total lectures by level

The most subscribed to course level is all levels for the period under review. An observation of the average price across levels indicates that a subscriber gets more value for money by opting to go through all levels than picking a specific level. An all-levels course cost 66.75 on average over the period.

Analysis by level suggest that as level progresses courses become more focused hence, they have a shorter duration.

The date (year) and subject were used as filters when a more focused analysis was required.



Analysis By Year

To establish performance and observe trends across the years, the following parameters were used:

- Number of subscribers and lectures year
- Number of reviews by year
- Average course price by year
- Average content duration

The number of subscribers and lectures consistently increased until 2015 for subscribers and 2016 for number of lectures. Meanwhile in relation to subjects, Graphic design and Web development were the subjects that didn't experience consistent increase in number of subscribers until 2015. For Graphic design, number of subscribers slumped in 2013 by about 50%, rose in subsequent years then dipped again in 2016 and 2017. However, for Web development the slumps occurred in 2014, 2016 and 2017.

Average price over the period under review has a zig zag pattern, the lowest price observation (\$40.78) was in 2012 and the highest (\$75.93) in 2017.

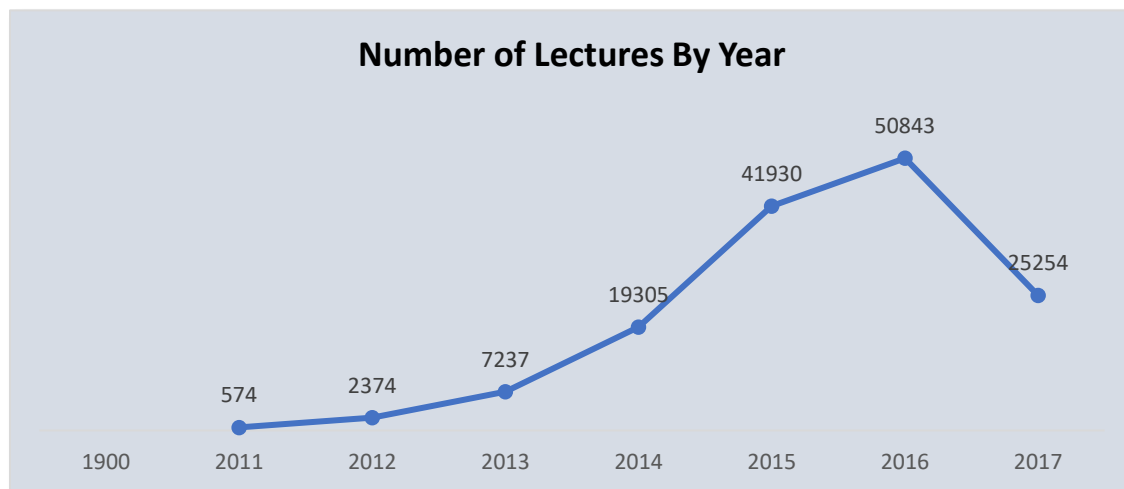
Although price rose and fell over the period, number of lectures continually increasing until 2016 suggests that the consistent growth in number of subscribers compensated enough for Instructors to keep making money. However, following the drop in number of subscribers in 2016

to 14.63% then to 66.67% in 2017, the number of lectures available in 2017 dropped by about 50%. This suggests that the increase in price, did not compensate for lost revenue due to subscriber decline hence some instructors left the platform, thus explaining the drop in available lectures at the end of 2017.

Number of reviews increased year on year until 2015, with the highest increase happening in 2015. For subject specific observations, Web development was the only subject that followed the pattern of consistent increase in the number of reviews year on year until 2015. Across levels, pattern of number of reviews per year have been mixed.

Analysis by year suggest that content duration, number of reviews, subscribers and lectures are on the decline while prices are inclining. 2017 was the worst year in terms of subscriber numbers across levels and subject and in effect revenue while 2015 was the best year for revenue and subscriber count.

The subject and course levels were used as filters when a more focused analysis was required.



Analysis By Revenue

To establish monetary performance over the period across levels and subjects, the following parameters were used:

- Revenue by subject
- Revenue by level
- Revenue by year

Revenue was on an upward trend until 2015 and this is consistent with the pattern observed in subscriber growth. The best performing year by revenue was 2015 (\$315 million) and the sharpest drop occurred in 2017. In terms of subject Web Development and Business Finance generated the most revenue and in terms of level, all-level and beginner level generated the most

profit. Again, this is consistent with these subjects and levels having the highest number of subscribers. Overall revenue generation in each specific year by subject and level was consistent with their number of subscribers. Thus, the most subscribed subject/level per year generated the most revenue while the least subscribed subject/level per year generated the smallest revenue.

Recommendations

Review content duration, this is an indication of content quality. On average across levels and subjects content duration has been on the decline. Producing quality content may help grow subscriber base again.

Implement mid-course reviews, this will help push course review numbers up and possibly attract new students in situations where the reviews are positive.

Review pricing and content duration for Graphic design and Musical Instrument. Prices trended upward on average while course duration trended downward. Improving subject content/duration to merit upward trending price may help make these subjects more popular.

Review price of free courses for the courses that are amongst the top performing courses by number of subscribers. The minimum fee can be applied to these free courses to help increase revenue.

Review pricing strategy at expert level, as it's the least subscribed level. Overly discounting courses at this level adversely impacts content duration and number of available lectures, meaning subscribers do not get a lot of value out of this level.

Conclusions

Analysis by year suggest that content duration, number of reviews, subscribers and lectures are on the decline while prices are inclining.

Analysis by level suggest that, as level progresses courses become more focused hence, they have a shorter duration. They however become more expensive, indicating the premium placed on knowing more. Discounting expert level courses also contributes to an even shorter course duration.

Analysis by subject indicates that 2 of the four subjects are very popular and only a small proportion of subscribers leave reviews for all subjects. The most popular subjects Web Development and Business Finance are also the most expensive on average.

The EdTech market has become highly competitive, as such, it has become increasingly important to deliver high quality content as well as value for money. Educative needs to pay attention to course quality as the data suggests this may be one of the reasons for a decline in subscriber base and as a result revenue.