A Report on Course Revenue Analysis for Educative (2011-2017)

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A. Project Description

Background of the Project:
Educative, an education technology company, is focused on improving its financial performance in the upcoming quarter. To achieve this, we are examining the revenue streams from our diverse range of courses. A key area under review is the Web Development courses, which are currently our most popular offerings. We believe these courses have the highest demand elasticity, meaning that small changes in their prices could lead to significant changes in revenue. By analysing the potential for price adjustments, we aim to determine if increasing the prices of these courses could significantly boost our overall earnings.

Business Problem:
The main challenge we face is identifying effective strategies to increase our earnings in the next quarter. Specifically, we are evaluating the possibility of raising the prices of our Web Development courses. Given their popularity, we need to assess if this price increase will lead to a substantial rise in revenue without significantly decreasing the number of subscribers. Our goal is to balance price adjustments with subscriber retention to maximize earnings from these high-demand courses.

Questions to Better Understand the Business Problem:
1. Revenue Goals:
   - What is our revenue target for the next quarter?
   - Is there a specific percentage increase in revenue we are aiming for?

2. Market Insights:
   - Are there trends showing a growing demand for Web Development courses?
   - How do our Web Development courses compare to competitors in terms of price and content?

3. Customer Preferences:
   - Have we done any surveys to understand how sensitive our students are to price changes?
   - What feedback have we received from students about the value of our Web Development courses?

4. Operational Constraints:
   - Are there any restrictions on raising course prices, like agreements with instructors or partners?
   - How will price increases affect our marketing and sales strategies?

5. Data Availability:
   - Do we have all the necessary data, especially competitor pricing and detailed customer feedback?
   - How current is our data on course enrolments and revenue?

B. Design

Data Cleaning and Preparation:
Headers: Ensured all columns have clear and accurate headers.

Duplicate Rows: Removed duplicate entries to maintain accuracy.

Decimal Places: Standardized decimal places for all numerical data.

New columns: extracted date from 'published_timestamp', created column to indicate whether a course is free or paid for, and a column for revenue per course.

Growth Rate: Computed annual revenue growth rates.

Visualization Tools Used:
Excel: Used for initial data analysis and simple visualizations.

Power BI: Used for more advanced and interactive dashboards to effectively communicate insights.

C. Findings

- Total Subscribers: 11,715,835
- Total Courses: 3,672
- Total Revenue: $881.67 million
- Significant growth in course publications, peaking in 2016.
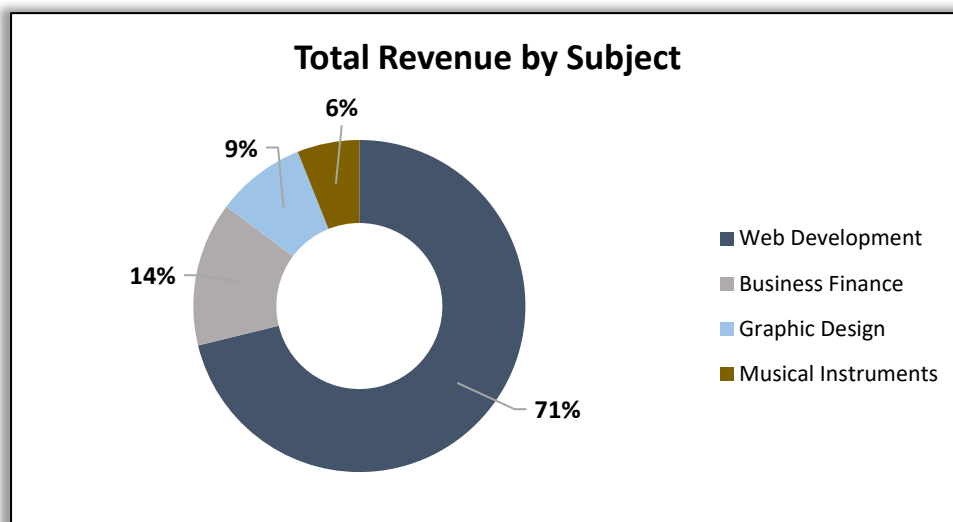- Noticeable revenue growth, especially in 2016 and 2017.

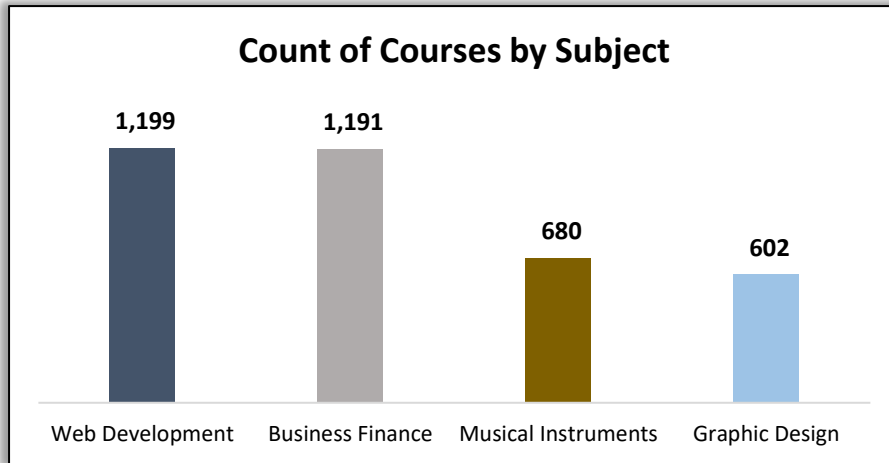
Figure 1: Total Revenue by Subject

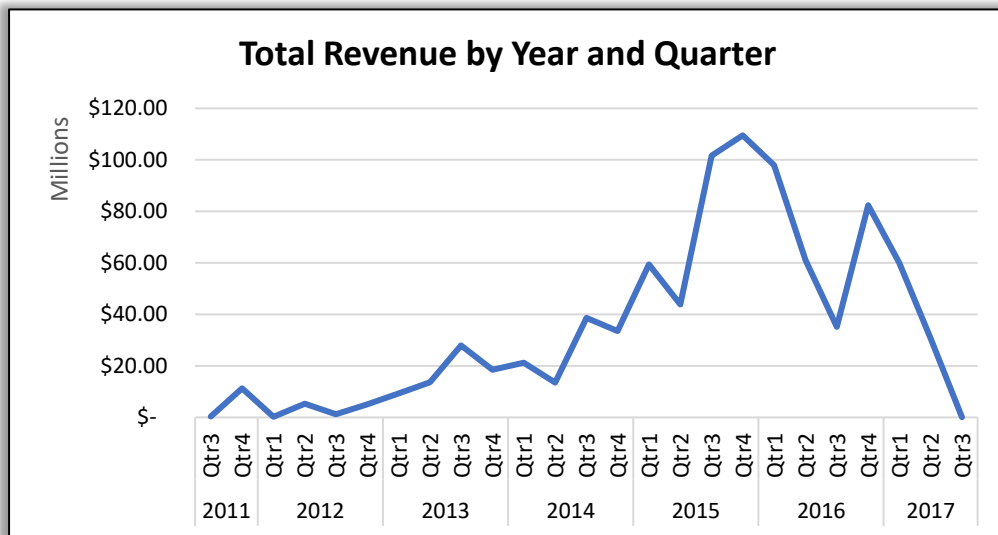*Figure 2: Count of Courses by Subject*

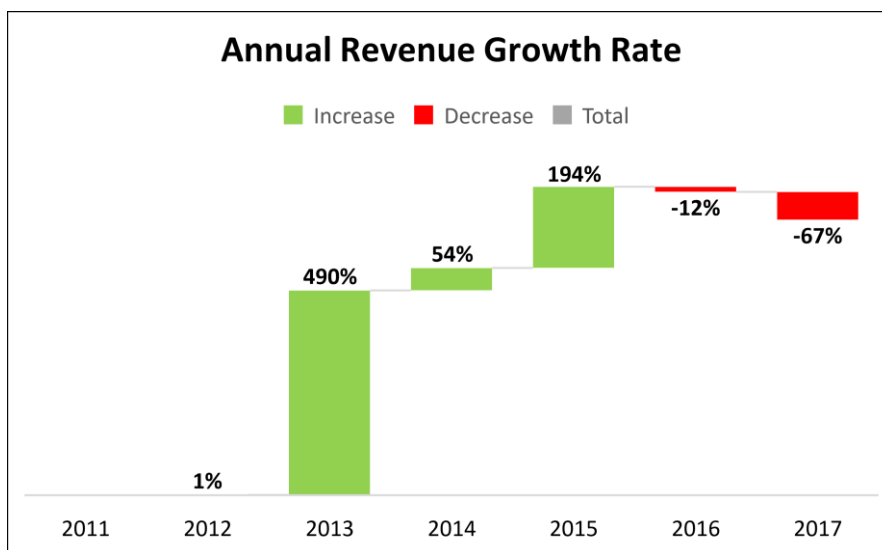*Figure 3: Total Revenue by Year and Quarter*

Figure 4: Annual Revenue Growth Rate

D. Analysis

Root Cause Analysis:
1. Symptom: Web Development courses generate the most revenue but might not be priced optimally.

   Why: We fear that higher prices might reduce the number of subscribers.

   Why: No thorough analysis has been done on how price changes affect demand.

   Why: We lack comprehensive data on competitor pricing and market trends.

   Why: Customer feedback and price sensitivity data are outdated or incomplete.

   Why: Insufficient investment in tools for real-time data collection and analysis.

Root Cause:
The main issue is that we don't have up-to-date and detailed data to confidently adjust our pricing strategies for Web Development courses.

E. Conclusion

Web Development courses are our top earners, but their prices might not be optimized for maximum revenue.

What Are the Specific Symptoms of the Problem?
High revenue, but potentially less than what could be achieved with better pricing.

Lack of real-time data and thorough market analysis.

Incomplete understanding of how price changes affect customer behaviour.

What Is Your Hypothesis for the Cause of the Problem?
Our pricing for Web Development courses might not reflect their true market demand because we don't have comprehensive data on price sensitivity, competitor pricing, and customer feedback.

F. Recommendations:

Conduct a detailed analysis to understand how price changes affect subscriber numbers.

Gather and analyse competitor pricing data to ensure our courses are competitively priced.

Invest in tools and processes for real-time data collection and analysis to stay updated with market trends and customer preferences.

Test small price increases for Web Development courses and monitor the impact on revenue and subscriber numbers.

By addressing these issues, Educative can optimize its pricing strategies, make better decisions, and achieve its goal of increasing next quarter earnings.