Professional Background

I am a recent graduate of the University of Lagos, studied Electrical/Electronics Engineering and currently transitioning into Data Science/Analyst Career path. Having read about Data Analyst and what it entails, I discovered that I have some fundamental knowledge in some basic tools required for a Data Analyst such as Statistics and python programming and introductory knowledge to SQL, so I became passionate about using these basic tools knowledge and the other tools required for a Data Analyst to solve real-world problems.

After which I had an opportunity for a 3-weeks Girls in Tech Bootcamp at Africa Agility to learn Data Science/Analyst skill. During this bootcamp, I was trained on the fundamentals of Data Science where I learnt data cleaning, data wrangling, data visualizations using python libraries such as Pandas, NumPy, Matplotlib, seaborn, using python to manipulate data. Worked with real world problem data and solved problems using python libraries. I further learnt introduction to machine learning algorithm and how these different algorithms can be used to build models that can make future predictions.

At the end of the bootcamp, I carried out analysis on a csv health data where I analyzed and predicted the patients who survived or died as a result of diabetes and other independent variables, after which I carried out data visualizations to gain meaningful insights from the data and built a logistic regression model that can predict the people who died or survived as a result of diabetes, smoking history and other illness. After which, a presentation was made to the Lagos state governor on how the model built can be used to predict the future death and birth rate in Lagos state.

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Udemy Project Description

This report is based on the analysis of Udemy courses, where I was given data on Udemy courses to analyze and discover how Udemy can increase revenue by looking out for where opportunity lies in the courses.

After collecting the data from multiple sources, I consolidated them on google sheets and cleaned the data by

1.removing duplicates, blank cells and formatting headers

2. carried out task using the right/left function to generate date data from the date-timestamp data

3.I used VLOOKUP function to generate corresponding data on a column from a different spreadsheet to see the top 20 most subscribed courses, whether they are paid/free, their level, course duration, rating and date published.

4. I carried out visualizations on Excel creating pivot tables and charts, and also on Tableau to visualize the total number of subscribers across each subject, the average price of each subjects across all levels, the average rating of each subject across all levels and the average content duration of each subject.

I got insights from the visualizations and discovered that we have more subscribers for web development course and high ratings for Graphic design course, so in order to increase revenue generation, it is advisable to increase the price of the web development course since it is highly demanded and sort for and also increase the price of graphic design as it has high rating.

The problem

The problem facing the business is to increase revenue for the company so we are looking for where opportunity lie in the courses to increase revenue. I have 3weeks to work on this project as I was given a deadline to analyze the Udemy course data and make findings on how the company can increase their revenue.

To understand this problem, Udemy courses data for the various subjects need to be collected and analyzed to see if increasing the price of the most subscribed course can increase revenue generation.

Design

The data was collected from multiple sources and consolidated together to form one data set on google sheet. I consolidated the data on google sheet by creating a sheet and clicking on File > Import. I imported the first file as Replace spreadsheet and for the other spreadsheets I selected the 'Append Rows to current sheet' option while importing them to place all the data in one spreadsheet.

The data collected was non-consistent or clean which I had to make it clean by removing blank cells, duplicate rows, making sure the headers were properly presented and removing all unwanted inconsistency from the dataset.

After which I used the Excel and Tableau Visualization tools to visualize the data set, analyzing the visualization, made findings and draw conclusions from the data. I used these visualization tools because they are easy to work with.

Findings

This project is to analyze the data of Udemy, an education tech company who offers online courses on different subjects such as Web development, Graphics design, Musical Instrument and Business Finance which has various topics under them to see where the opportunity lies to increase our revenue.

I downloaded the csv datasheets of the various courses from the module 3 on the Entry level data analyst home page, and I consolidated them on google sheets. I went further to prepare the data for analysis by cleaning and modifying the data.

The data below represents the first 20 rows of the cleaned data set

course_title	url	price	num_subscribers	num_reviews	num_lectures	level	Rating	content_duration	published_timestamp	subject	Date	paid/free Course
Learn HTML5 Programming From Scratch	https://www.udemy.com/learn-html5-pro	0	268923	8629	45	Beginner Level	0.82	10.5	2013-02-14T07:03:41Z	Web Development	2013-02-14	Free course
Coding for Entrepreneurs Basic	https://www.udemy.com/coding-for-ent	0	161029	279	27	Expert Level	0.69	3.5	2013-06-09T15:51:55Z	Web Development	2013-06-09	Free course
The Web Developer Bootcamp	https://www.udemy.com/the-web-deve	200	121584	27445	342	Beginner Level	0.89	43	2015-11-02T21:13:27Z	Web Development	2015-11-02	Paid course
Build Your First Website in 1 Week with	https://www.udemy.com/build-your-first	0	120291	5924	30	All Levels	0.78	3	2014-04-08T16:21:30Z	Web Development	2014-04-08	Free course
The Complete Web Developer Course 2.0	https://www.udemy.com/the-complete-w	200	114512	22412	304	Beginner Level	0.55	30.5	2016-03-08T22:28:36Z	Web Development	2016-03-08	Paid course
Free Beginner Electric Guitar Lessons	https://www.udemy.com/beginner-elect	0	101154	1042	95	All Levels	0.88	4.5	2012-06-15T17:00:33Z	Musical Instruments	2012-06-15	Free course
Web Design for Web Developers: Build E	https://www.udemy.com/web-design-s	0	98867	6512	20	All Levels	0.82	3	2015-04-13T18:29:47Z	Web Development	2015-04-13	Free course
Learn Javascript & JQuery From Scratch	https://www.udemy.com/learn-javascrip	30	84897	2685	10	All Levels	0.79	2	2013-10-10T15:19:29Z	Web Development	2013-10-10	Paid course
Practical PHP: Master the Basics and Co	https://www.udemy.com/code-dynamic-	0	83737	4598	45	Intermediate Level	0.85	6.5	2014-07-19T03:02:05Z	Web Development	2014-07-19	Free course
JavaScript: Understanding the Weird Par	https://www.udemy.com/understand-jav	175	79612	16976	85	All Levels	0.69	11.5	2015-03-12T23:19:54Z	Web Development	2015-03-12	Paid course
Pianoforall - Incredible New Way To Lea	https://www.udemy.com/pianoforall-incr	200	75499	7676	362	Beginner Level	0.96	30	2014-08-07T06:27:51Z	Musical Instruments	2014-08-07	Paid course
Angular 4 (formerly Angular 2) - The Co	https://www.udemy.com/the-complete-c	190	73783	19649	329	Beginner Level	0.9	22	2016-02-11T07:29:29Z	Web Development	2016-02-11	Paid course
Beginner Photoshop to HTML5 and CSS3	https://www.udemy.com/psd-html5-css	0	73110	1716	22	All Levels	0.94	2	2012-07-27T12:54:57Z	Web Development	2012-07-27	Free course
Web Development By Doing: HTML / CSS	https://www.udemy.com/web-developm	0	72932	2575	21	All Levels	0.39	1	2013-09-25T00:42:09Z	Web Development	2013-09-25	Free course
HTML and CSS for Beginners - Build a W	https://www.udemy.com/html-and-css-f	0	70773	5660	50	All Levels	0.57	6	2015-03-19T19:07:12Z	Web Development	2015-03-19	Free course
Become a Web Developer from Scratch	https://www.udemy.com/how-to-becom	120	69186	2408	197	All Levels	0.61	27.5	2011-11-19T21:51:20Z	Web Development	2011-11-19	Paid course
Bitcoin or How I Learned to Stop Worryir	https://www.udemy.com/bitcoin-or-how	0	65576	936	24	All Levels	0.56	8	2013-04-20T02:25:22Z	Business Finance	2013-04-20	Free course
Quickstart AngularJS	https://www.udemy.com/quickstart-ang	0	64128	4047	17	Beginner Level	0.96	1.5	2014-11-22T12:42:22Z	Web Development	2014-11-22	Free course
Learn Responsive Web Development fro	https://www.udemy.com/learn-responsi	0	59639	2692	24	All Levels	0.55	4.5	2013-12-09T12:16:40Z	Web Development	2013-12-09	Free course

After the data cleaning, I carried out the data visualization on Excel and Tableau creating pivot tables and charts based on the task given in order to generate insights from the data.

❖ Finding 1:
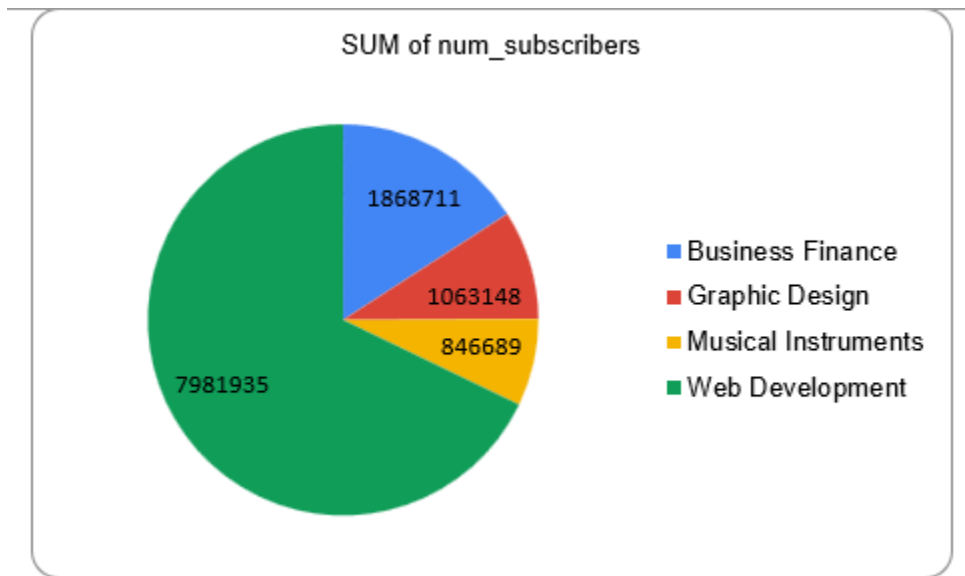
Figure 1: Total Subscriptions for Each Subject

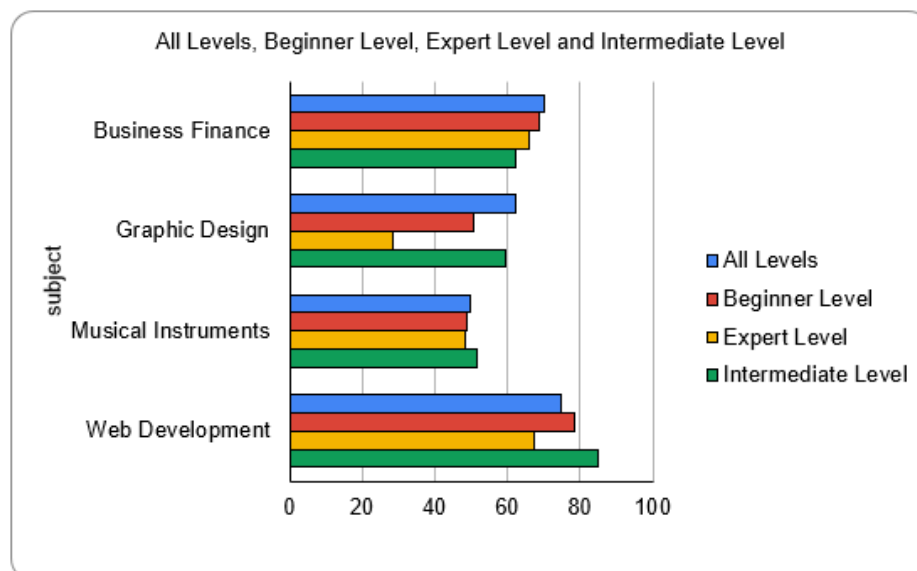Figure 2: Average price for each Subject across all skill level

Table 1: Free/Paid Users

paid/free Course	Count of paid/free Course
Free course	311
Paid course	3365
Grand Total	3676

❖ Finding 2:

Table 2: Average number of subscribers by Subject

subject	AVERAGE of num_subscribers
Business Finance	1569.026868
Graphic Design	1766.026578
Musical Instruments	1245.130882
Web Development	6635.024938
Grand Total	3199.260881

Figure 3: Average number of subscribers for each Subject
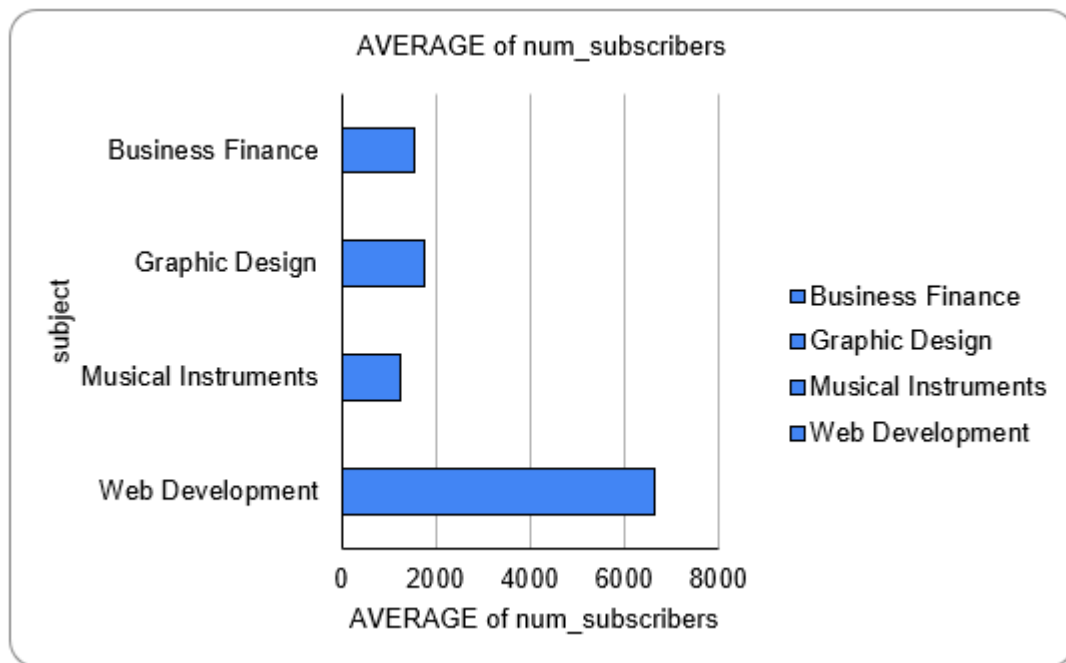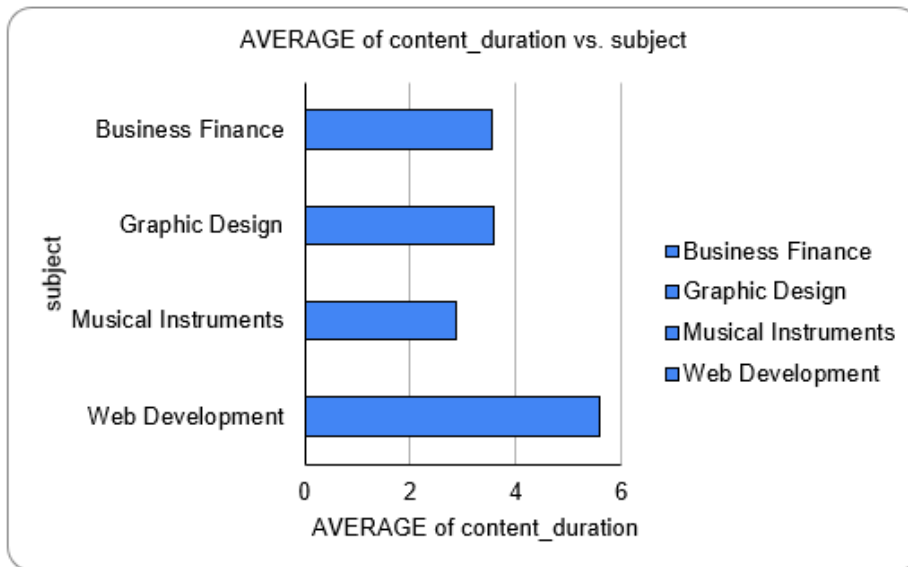
Figure 4: Average content duration by Subject

Table 3: Average content duration by subject

subject	AVERAGE of content_duration
Business Finance	3.557696613
Graphic Design	3.585465116
Musical Instruments	2.854387255
Web Development	5.586658354
Grand Total	4.096137106

Table 4: Average Rating by Subject across all skill level

AVERAGE of Rating	level				
subject	All Levels	Beginner Level	Expert Level	Intermediate Level	Grand Total
Business Finance	0.691516588	0.686215539	0.7	0.695373134	0.690352645
Graphic Design	0.730985075	0.727065217	0.884285714	0.721578947	0.73038206
Musical Instruments	0.312037037	0.313834586	0.296666667	0.281025641	0.308911765
Web Development	0.645466035	0.635379147	0.498571429	0.670895522	0.643050707
Grand Total	0.619371429	0.597317073	0.590172414	0.615734597	0.610867791

Figure 5: Average rating by Subject across all skill level

All Levels, Beginner Level, Expert Level and Intermediate Level

Legend:
- All Levels
- Beginner Level
- Expert Level
- Intermediate Level
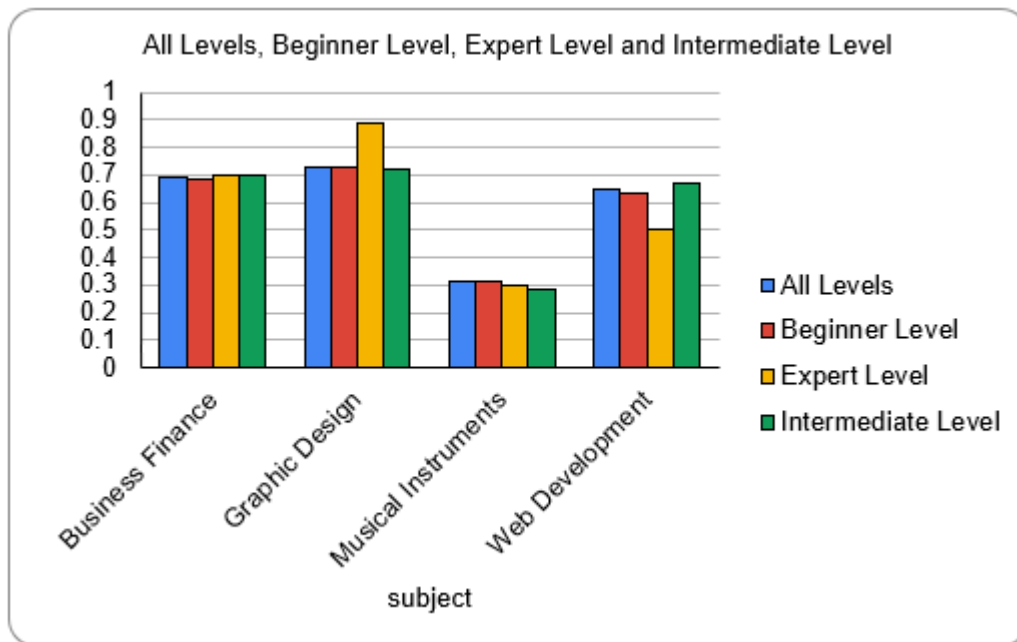
subject

Analysis

1. From my findings it was that web development course subject has the highest number of subscribers, followed by Business finance course, then Graphics design and lastly Musical Instrument course.

2. The web development has the highest average number of subscribers than the other subjects

3. The average content duration for Graphics design is equal with that of Business finance with web development course having the highest average content duration

4. The intermediate level had the highest average price rating for the web development and Musical instrument course across all levels, also the all level course for business finance has the highest price tag across all levels while the all level course for Graphics design had the highest price across all levels.

5. All the level courses had the same average rating for the business finance course, also the expert level course had the highest rating for the Graphic design course, and all the level courses had the same rating for the musical instrument course while the intermediate level had the highest rating for the web development course.

From our findings it can be seen that the web development course has the highest average number of subscribers, the highest price tag (intermediate level) and also had the highest content duration, it showed that the demand for web developers is high therefore had more people who wants to acquire the knowledge thereby increasing the number of subscribers irrespective of the price for the course while the Expert level graphics design course has the highest rating of all levels and subjects which means that it is also the content of the course is top-notch therefore highly rated by subscribers.

Conclusion

Due to the high number of Subscribers for the Web development course even though it had the highest price compared to the other subject courses, which shows the high demand of web developers we should increase the prices of web development course from the beginner's level to the expert level, thereby generating more revenues for the company and also that of Graphic design due to its high ratings.