**Project 1 Airbnb**

In this project, I had to work with 300,000 rows of Airbnb data along with 120,000 duplicates with the prime objective of understanding the current business model and growth potential of Airbnb and what were the most important factors that were influencing the price of the booking, which were the cities that were producing most value to customers and the highest amount of revenue for Airbnb and created a growth forecast on the future growth potential of Airbnb.

**DATA Cleaning**

This project taught me the art of data cleaning where the prices for each of the cities were in their own local currencies for example Paris had its currency in euros and Bangkok had its currency in that Bhat and so on so forth, and I had to write a python code to convert these respective currencies to dollars using good old if and else if based python codes, there were 20 columns and I had to choose those columns that were most relevant to solve the business problems and filled in the missing values using multiple imputations.

**Business Analysis**

**Factor affecting price most-** Initially when I did a correlation analysis of the price, there was a correlation of only 0.1 and the prices were in fact reducing when the number of beds were increasing beyond 6 bedrooms then found out 7 bedrooms and above bookings were just 0.5% per cent of the total and the rest 99.5% of the booking were 1 to 6 bedrooms and the when I considered only the 1 to 6 bedroom bookings which were 99.5% of the bookings made on Airbnb the correlation increased to 0.95 which is a very high correlation.

**The most valuable city for customers-** The most valuable city is defined as the city with the highest rating and the most affordable for customers and in this case it was Mexico with an average rating of 94/100 and was extremely affordable costing only $60 a night compared to other cities on average costing $100 a night

**Most revenue-generating city**-The most revenue-generating City was Paris which was making a massive revenue of $4.28 Million dollars wherein the average cost per night was $172 dollars a night! And it received an average rating of 91/100.

**Overall Business Analysis-**

* **Entire place** generated 75% of Airbnb’s revenue in **Entire Apartment generated** over 50% of Airbnb’s Revenue.
* Revenue: Over the past few years, Airbnb's revenue has been increasing steadily. In 2022, the company generated $8.4 billion in revenue, which is almost a 325% increase compared to 2017 when it generated $2.6 billion. This indicates that the company's business model is strong and its services are in demand.
* Profits: Airbnb has been profitable in recent years, with the exception of 2021 when it incurred a loss of $352 million. However, in 2022, the company's profits rebounded, with a profit of $1.9 billion with a net margin of 22.6%
* Average Stock Price: Airbnb's average stock price has fluctuated over the years, with a high of $167.59 in 2021 and a low of $125.10 in 2022. This volatility is typical of a tech company that is still in its growth stage.
* Market Capitalization: Airbnb's market capitalization has also fluctuated, with a high of $96.5 billion in 2021 and a low of $80.3 billion in 2022. This indicates that the market has confidence in the company's potential but is also cautious about its future growth prospects.

**User growth analysis**

The user growth of Airbnb over the past decade has been remarkable. From just 6 million users in 2012, the platform has grown to serve 200 million users in 2020. This represents a 3300% increase in user base over an eight-year period.

One notable aspect of Airbnb's user growth is its exponential nature. The platform's user base has been growing at a rapid rate, with the number of users almost doubling every two years. For example, from 2012 to 2014, Airbnb's user base grew from 6 million to 50 million, an increase of 733%. From 2014 to 2016, the user base grew to 100 million, a 100% increase in just two years. Similarly, from 2016 to 2018, Airbnb's user base grew to 150 million, and from 2018 to 2020, the user base grew to 200 million.

Another interesting observation is the impact of the COVID-19 pandemic on Airbnb's user growth. In 2020, Airbnb's user growth rate slowed down due to the pandemic, which led to travel restrictions and lockdowns in several countries. Despite this, the platform still managed to attract 200 million users in 2020, indicating its resilience and popularity even during challenging times.

Overall, Airbnb's user growth over the past decade has been impressive, driven by factors such as its unique business model, convenience, and affordability. While the pandemic had a temporary impact on Airbnb's growth, the platform's user base is expected to continue growing in the coming years as travel restrictions ease and people resume their travel plans.

**Future Growth Potential**

it is evident that Airbnb has a significant growth potential in the future. In 2022, the company rebounded strongly from the pandemic and achieved significant growth in nights and experiences booked and gross booking value compared to 2021. The ADR also increased compared to 2019, indicating that Airbnb is well-positioned to generate higher revenue per booking.

Looking ahead, as the world continues to recover from the pandemic, it is likely that more people will travel, creating new opportunities for Airbnb. Additionally, the company's expansion into new markets and services, such as experiences and long-term stays, will help drive growth.

Moreover, the increasing popularity of alternative accommodations and the growing preference for unique and authentic travel experiences among consumers are trends that are likely to benefit Airbnb's business model in the long run.

In conclusion, the data suggests that Airbnb has a bright future with significant growth potential in the coming years. However, the company will need to continue to innovate and adapt to changing market conditions to maintain its competitive edge and capitalize on the opportunities ahead.