**Airbnb Bookings Analysis**

**Technical document**

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**ABSTRACT :-**

Airbnb, which launched its business in 2009, has experienced explosive growth by creating value through the sharing economy business model. The Airbnb business model helps property owners exploit underutilized assets. However, along with its rapid growth, controversies have arisen among many stakeholders, especially the traditional hotel industry, communities, and policymakers. This study reviews academic articles to pinpoint the factors involved in the relationships among Airbnb and its multiple stakeholders. The aim is to identify the benefits, drawbacks, and issues surrounding Airbnb. The analysis is based on the perspectives of six Airbnb stakeholders: guests, hosts, employees, communities, competitors, and policymakers. A variety of scholarly journals indexed in the Scopus database were reviewed, with 282 included in the final analysis. The analysis will be useful for academics, practitioners, and policymakers alike, as it summarizes the Airbnb relevant actors, identifies key factors that influence stakeholder behavior, and assesses the power and level of influence of each stakeholder. Ultimately, the study points to potential directions for future research on Airbnb.

## **Keywords :-**

Airbnb Literature review Stakeholder Guest Host Employee Community Competitor Policymaker

## **1. Introduction**

Within a few years of its inception in 2009, Airbnb had become one of the most successful sharing economy platforms. Roelofsen and Minca (2018) report that as of 2017, Airbnb had attracted 100 million hosts and guests worldwide, earning $100 million that year. The company has developed its business model based on a compelling value proposition. It integrates economic benefits for travelers and residents of tourist areas via a trusted marketplace that enables the platform to scale up and leverage its assets through network utilization (Chung and Foley, 2018; Leon, 2020; Oskam and Boswijk, 2016).

Airbnb offers many benefits to its stakeholders. For customers, Airbnb accommodation is typically cheaper than traditional accommodation like a hotel (Guttentag, 2015; Gyódi, 2019; Varma et al., 2016). In addition, Airbnb offers local authenticity (Bucher et al., 2018), giving customers the opportunity to live like locals in a listed apartment, house, or private room (Gurran and Phibbs, 2017; Lin et al., 2019; Paulauskaite et al., 2017). For property owners, Airbnb enables them to maximize the utilization of their underutilized assets (Ferreri and Sanyal, 2018; Oskam and Boswijk, 2016). For other stakeholders, such as the community, Airbnb increases community economic and business opportunities (Gurran and Phibbs, 2017; Petruzzi et al., 2020).

Despite the advantages that Airbnb offers, some have been on the receiving end of the negative externalities that Airbnb's growth has brought about. For example, one hotel in Texas experienced a revenue loss for every increase in Airbnb property listings (Dogru et al., 2019; Varma et al., 2016; Zervas et al., 2017). Tourist sites have also been subjected to negative externalities based on the increased concentration of tourists in particular spots, which invites environmental problems such as water scarcity, waste management, and carbon emission issues (Chung et al., 2020a, Cheng et al., 2020; Martín et al., 2018). The problems created by Airbnb as a shared economy accommodation have also generated challenges for the government as a regulator because Airbnb's disruption of the accommodation industry has changed the tourism landscape, creating taxation problems and discrimination problems, among others (Guttentag, 2015; Interian, 2016; Ključnikov et al., 2018). Many conceptual and empirical studies have discussed these issues from the stakeholders' perspective that include the guests (Pinotti and Moretti, 2018; Sthapit and Björk, 2019), hosts (Ert et al., 2016), competitors (Forgacs and Dimanche, 2016; Ginindza and Tichaawa, 2019; Horodnic et al.,2016), communities (Midgett et al., 2017; Roelofsen and Minca, 2018), and the government (Ključnikov et al., 2018; Schäfer and Brawn, 2016).

To date, there are several literature reviews that discuss peer-to-peer (P2P) accommodation in general (Belarmino and Koh, 2020; Dolnicar, 2019, 2020; Prayag and Ozanne, 2018; Sainaghi, 2020) and four literature reviews that address Airbnb specifically (Dan et al., 2019; Guttentag, 2019; Medina-Hernandez et al., 2020; Ozdemir and Tucker, 2019).

Our study uses a literature review approach as well. However, unlike the study of Dane et al. (2019)—which discusses the motives of hosts and guests, the role of trust and reputation, price calculation, and legal aspects—our study is based on stakeholder theory. We structure our study around this theory as it brings an ethical aspect to management decision making (Goodpaster, 1991). The ethical issue is relevant as ethics is a theme that remains underexposed in the research related to the sharing economy (Andrew et al., 2020).

Based on stakeholder theory, as suggested by Reed et al. (2009), our study is framed around three questions: (1) who are the stakeholders of Airbnb? (2) what are their interests/concerns? and (3) how much power and influence does each stakeholder have? We expect our results to generate knowledge about the relevant Airbnb actors and to provide a comprehensive understanding of the Airbnb phenomenon, identifying key factors that influence the behavior of its stakeholders, assessing the influence and level of impact of each stakeholder, and exploring the research based on the perspective of Airbnb. As a business entity, Airbnb can use the information to improve stakeholder decision making that incorporates ethical considerations. Further, the study can offer insights to the government when considering the feasibility of future policy directions.

**2.PROBLEM STATEMENT:**

Maximize: The availability of Rooms to the customer.

Minimize: Minimize the bad reviews.

**The main goal of the project is to:**

To create a world where anyone can belong anywhere and we are focused on creating an end-to-end travel platform that will handle every part of your trip. As we work to achieve this goal, we are focused on building for the future, driving strong sustained growth, and creating new businesses that will power long-term success.

**3.DATA DESCRIPTION:**

The data description phase starts with an initial data collection and proceeds with activities in order to get familiar with the data. Identifying data quality problems, discovering first insights into the data and detecting interesting subsets to form hypotheses from hidden information are activities of this step. Data which is collected from a AIRBNB company from Seoul to get analyzed, involves usage details of customers from. The data was taken from Airbnb. It has 49000 rows and 16 columns.

**4.DATASET PREPARATION:**

The Airbnb datasets from room provider company contains 16 features and 49000 observations

**Data-set description**

|  |  |
| --- | --- |
| Column | Dtype |
| id | int64 |
| name | object |
| host\_id | int64 |
| host\_name | object |
| neighbourhood\_group | object |
| neighborhood | object |
| latitude | float64 |
| longitude | float64 |
| room\_type | object |
| price | int64 |
| minimum\_nights | int64 |
| number\_of\_reviews | int64 |
| last\_review | object |
| reviews\_per\_month | float64 |
| calculated\_host\_listings\_count | int64 |
| availability\_365 | Int64 |

**5.FEATURE BREAKDOWN:**

**1.Id** – This is the identity number of the property listed by the particular host.

**2.Name** – It stands for the name of the property listed by the host.

**3.Host\_id** – It is the identity number of the host who has registered on Airbnb website.

**4.Host\_name** – These are the names of the hosts who have listed their properties.

**5.Neighbourhood\_group** – These are the names of the neighborhood groups present in NYC.

**6.Neighbourhood** – These are the names of the neighborhoods present in the neighborhood groups in NYC.

**7.Latitude** – These represent the coordinates of latitude of the property listed.

**8.Longitude** - These represent the coordinates of longitude of the property listed.

**9.Room\_type** – This represents the various types of rooms listed by the host.

**10.Price** – This is the rent of the Property listed in USD.

**11.Minimum\_night**s – This represents the minimum number of nights a customer rented the property.

**12.Number\_of \_reviews** – This represents the number of customers who reviewed the property.

**13.Last\_review** – This represents the date when the property was last reviewed.

**14.Review\_per\_month** – It is the count of reviews per month which the property received.

**15.Calculated\_host\_listing\_count** – it is the number of listings done by a particular host.

**16.Availability\_365** – This represents the number of days the property is available.

**6. Steps involved:**

**● Importing important**

**libraries** Our main

motive through this step

was to import all the

important

libraries to help us explore the problem statement and

perform EDA to draw

conclusions on the basis of

the data set.

**● Understanding the data set** Next, we worked on checking the data set. How big is the data set?

How many rows and columns are available?

What could be the

important columns to solve the

Problem statement?

How many null values do we

have in the data set?

We imported the important libraries

along with our data set.

**● Null value Treatment** Our data set contains a large number of null

values which might tend to disturb our insights. Hence, we replaced them with ‘0’ for numerical data and ‘undefined for ‘categorical data’ to get a better result.

After treating the null values, we started with performing EDA.

**7. Exploratory Data analysis**

While doing the EDA we used the following analysis to solve the problem statement.

1.What can we learn about different hosts and areas?

2.What can we learn from predictions?

3.Which hosts are the busiest and why?

4.Is there any noticeable difference of traffic among different areas and what could be the reason for it?

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# **8.observation**

After observing the analysis of data we find the answers to the important questions.

### 1. The people who prefer to stay in Entire home or Apartment they are going to stay a bit longer in that particular neighborhood only.

### 2. The people who prefer to stay in Private room won't stay longer as compared to Home or Apartment.

### 3. Most people prefer to pay less price.

### 4. If there are more Reviews for a particular Neighborhood group that means that place is a tourist place.

### 5. If people are not staying more then one night means they are travelers.

**9.Conclusion:**

That's it! We reached the end of

our exercise.

Starting with loading the data so far, we have done EDA, null values treatment, encoding of categorical columns, and found out major reasons that govern booking and steps on how we can increase it.