

A Work Project, presented as part of the requirements for the Award of a Master Degree in Management from the NOVA – School of Business and Economics.

Equity Research – Airbnb, Inc

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Abstract

This report describes aims to give a price target for one of the world's largest companies in the Travel & Tourism industry which lodges over 150 million users every year in over 200 countries. It is important to highlight that this industry was one of the most impacted by the COVID-19 pandemic. Nonetheless, Airbnb is well positioned to capitalize from T&T recovery. But, fundamentals and current market conditions don't fully justify Airbnb's current valuation, which we explain in detail in this report.

Keywords

Equity Research
Valuation
Tourism Industry
Financial Forecast

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This report is part of the Equity Research – Airbnb report (annexed) and should be read as an integral part of it.

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Figure 1: Airbnb logo;
Source: Airbnb Website

Company Overview

Company Description

Airbnb Inc., abbreviated from "AirBedandBreakfast.com," is an American company founded in 2008 by two former American schoolmates, Brian Chesky, Joe Gebbia, and Nathan Blecharczyk. It all started when the founders needed an extra source of income and came up with the idea of renting out their own living room in order to target a certain type of traveller who wanted to stay in a cosy and comfortable place while also avoiding the customary high expenses of hotels. The plan was to turn their San Francisco apartment's living room into a makeshift bed and breakfast with an air mattress. This idea resulted in Airbnb "taking off" which led to what is Airbnb nowadays, a home rental online platform, with a C2C business model, that runs in an online marketplace via website or a mobile app that allows people by "just a click way" to list, find, and rent short-term lodging all over the world, primarily referencing vacation rentals and tourism activities.

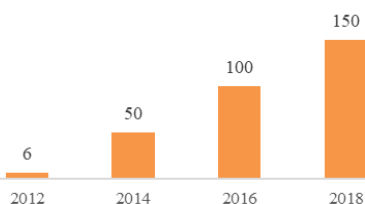
- Airbnb Description in Numbers

Airbnb has grown and distributed its operations, in 2020 is present in over 100,000 cities in more than 200 countries, employing 5597 people (is important to highlight due to COVID-19 Airbnb needed to reduce a quarter of its workforce, approximately in 1800 employees). (Airbnb SEC Filing)¹

Moreover, by analyzing the graphics, we can highlight three metrics that can help understand how Airbnb is expanding its business through the years. In terms of Users (**Graph 2**), the company grew 240% from 2012 to 2018, reaching in 2018 150 million users. Regarding the total number of bookings (**Graph 3**), was growing at a good pace until 2020, where suffered a decrease of 29% mainly due to the negative impacts of COVID-19. Finally, concerning the total number of listings in its platform, Airbnb from 2017 to 2020 increase the listings in 6 millions, however, the growth from 2019 to 2020 was lower due once again to the impacts of the pandemic.

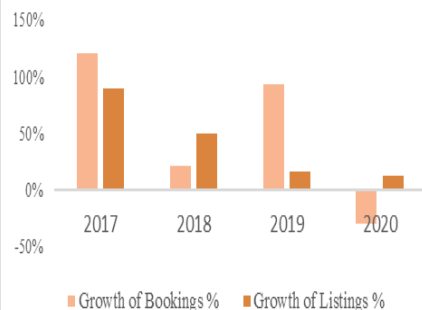
Regarding the revenues per geographical region, Airbnb revenue in 2020 was \$1.8 billion (55%) in North America, \$1.0 billion (31%) in EMEA, \$0.3 billion (7%) in Asia Pacific and \$0.3 billion (7%) in Latin America (**Graph 4**). Additionally is important to refer that individually U.S represents 10% of Airbnb total revenue by 2020, and in terms of cities Paris, New York and Tokyo are the three cities that contribute more to the whole Airbnb revenues.

Airbnb Users, numbers in millions

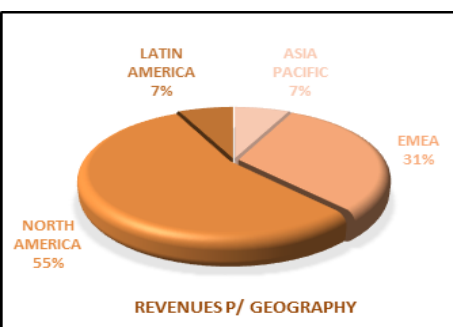


Graph 2¹: Airbnb Users, in millions;
Sources: The Guardian (2019); RJMetrics (2012); Skift (2020)

Growth of Bookings & Listings P/ Year



Graph 3¹;
Sources: Forbes (2018); CNBC (2017); Airbnb website (2021)



Graph 4²;
Source: Statista 2021 & Airbnb SEC Filling

Business Model

... reinvented and revolutionized ...

Airbnb reinvented and revolutionized the home stays and tourism experience, provoked a strong reaction in the travel & tourism sector which allowed the entrance of new “entrepreneurs” in the industry apart from the already existing accommodation facilities, but also provided an opportunity for travelers of a completely different type of accommodation experience.

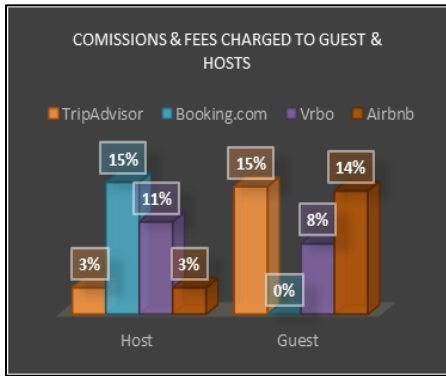
... doesn't own any physical spaces ...

First, it is important to note that Airbnb does not own any physical spaces and only operates as an intermediary between the host and the guests. Regarding Airbnb sharing business model is easy to understand, there are three process phases: the first of these is when host proposes his/her property to Airbnb website platform; the second is when Airbnb approves the property according to its regulations and requisitions and then posts it on the online platform, and finally the third phase is when the guest rents the host property on the company's platform. Additionally, Airbnb nowadays has been forced to update its platform to match the different needs of its growing users and now has three types of segments: Airbnb classic (the normal houses), Airbnb for Work (a series of properties equipped with facilities that enable the guest to work from the address) and Airbnb Plus (a premium version listing the most luxurious houses available on the platform).

Finally, regarding the cashflow management, Airbnb uses a very similar model adopted also by “Amazon”, which consists in charging guests the total amount of the accommodation fee at the time of the booking rather than immediately before the stay begins, as is common in other areas of the tourism industry, and only release the money 24 hours after the guest checks in. In our opinion, Airbnb using this approach is preventing the listing being available for other bookings and that same conditions as advertised pertain, as well as enabling access to the rental money for potential extended period.

- **Airbnb Fees:**

In order to understand what is the impact and how fees are calculated by Airbnb, is important to understand that there are three types of fees (Airbnb Website, 2021)⁴ : optional fees, service fees and taxes fees (will be disregard since depends in each country VAT policies).



Graph: 5;
Source: Companies Websites (2021)

The optional fees, added to the guest final price, were created in order to help hosts supporting extra utility costs. The most common fees being applied, nowadays, are the cleaning fees and the additional guest fees. It is also important to refer that Airbnb does not interfere in these fees, thereby they are totally controlled by the hosts.

Regarding the service fees, these are charged by Airbnb to both guests/hosts and consist mainly to cover the 24/7 Airbnb client support and marketing costs. Although, hosts and guest pay different fees rates. In other words, Airbnb charges to guests usually a 3% fee and to hosts usually a 14% fee, both charged from the final booking price (these rates may vary upwards in particularly cases of Airbnb Plus). To clearly understand let's focus in an example (excluding all VAT taxes): a host charges 100\$ for a 1 night stay, plus a 50\$ in cleaning fees this equals a subtotal of 150\$. Airbnb will charge the host 4,5\$ (3% x 150\$) charge the guest 21\$ (14% x 150\$). Additionally, the host will receive 145\$ (150\$ - 4,5\$) and the guest will pay 171\$ (150\$ + 21\$).

In the **Graph 5**, we can analyze that Airbnb, when compared with its biggest competitors, in terms of fees charged the lowest fee to hosts pair with TripAdvisor and in terms of fees charged to guests charges the second highest fee just below from TripAdvisor.

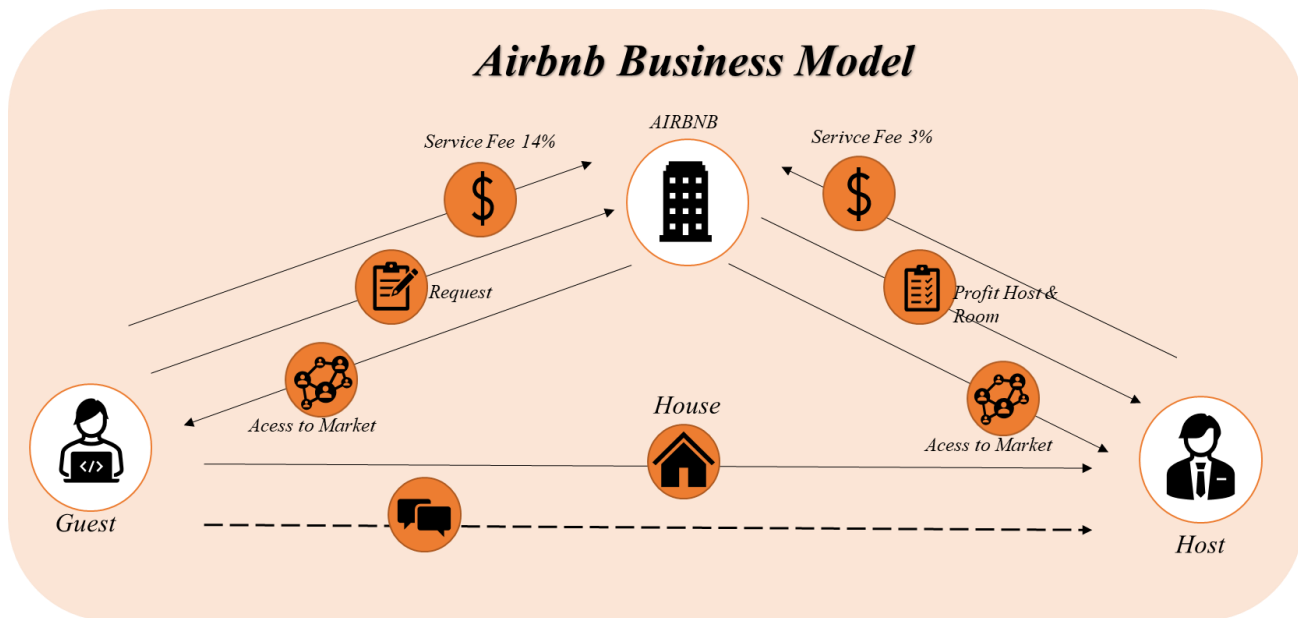
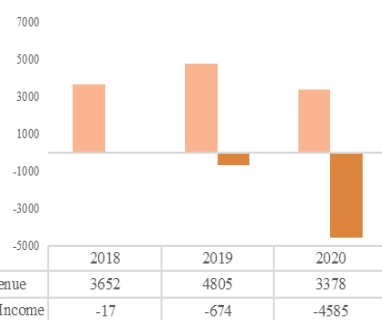


Figure 2³
Source: Airbnb Website 2021

Financial Overview

Revenues Vs Net Income, values in \$ millions



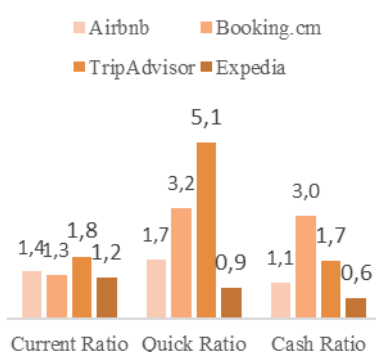
Graph: 6²;
Source: Airbnb SEC Filing

Revenues were growing at a considerable pace in the recent years until the year 2020, when COVID-19 hit the economy. In practical terms, grew 35% in 2018 and 31% in 2019, however in 2020 suffer a decrease of (41%). Despite considerable revenues, in terms of net income, Airbnb evidenced in the last three years negatives values, in 2018 of (\$17M), in 2019 a value of (\$674M) and in 2020 (\$4.6B). **(Graph 6)**.

Additionally, the factors that contributed most for the negative income were cost of revenues, which represented 25% in 2019 and 26% 2020 of total revenues respectively, and the cost with sales & marketing (part of Airbnb strategy) which represented 34% in 2019 and 30% in 2020 of total costs & expenses respectively. However, in 2020, is important to highlight other two factors that also contributed for the growth of negative income, the first is that Airbnb increased by 181% the amount invested (2.7B\$) in product development, the company primarily invested in its platform by developing new initiatives of software's and technologies in order to power Airbnb global network of hosts and guests. The second is the atypical 151M\$ cost that Airbnb had associated with amendments and terminations of contracts due to the global workforce reduction due to the impacts of the pandemic.

On the subject of a briefly description of Airbnb capital structure, the company's total assets have been increasing since 2018 and that in 2020 it stands at \$10.5B (26% increase compared to 2019), of which \$8.9B correspond to current assets, liabilities have a value of \$4.6B in 2020 (decrease of 1% compared to 2019), with current liabilities representing \$7.6B.

Liquidity Ratios 2020



Graph: 7²;
Source: Airbnb SEC Filing

When we compare Airbnb's liquidity ratios to those of its biggest competitors **(Graph 7)**, we see that in terms of the current ratio, Airbnb is in line with its competitors, with a ratio of 1,4x indicating that the company's short-term assets are in line with its short-term liabilities. In terms of quick ratio, Airbnb has a positive ratio of 1.7, which, while much lower than Booking.com and TripAdvisor, indicates that the company is comfortable paying its current liabilities with its most liquid assets. In terms of cash ratio, Airbnb has a value of 1.1 indicating that the company can meet all of its obligations using only cash and equivalents. Furthermore, we believe it is important to emphasize that a cash ratio as high as Booking.com does not necessarily indicate that the company is in a better position or performing better than Airbnb, but it may be a sign of the company is letting the money "stagnate in the bank." or is not efficient in utilizing cash to create value by investing in profitable projects.

To sum up, Airbnb evidences a good “health” in terms of liquidity ratios which is aligned when comparing with its competitors, which can be a good for Airbnb to protect himself from further unforeseen changes in market conditions.

Industry Overview

Macroeconomic Outlook

Since the end of 2008 world financial crisis and years later the 2012 sovereign debt in Europe, the world economy was starting to show in 2013/14 signs to be overcoming it and reveal strong growth, both in developed and developing markets. However, this positive trend began to slightly reverse in 2019, where, according to **table 1**, all regions registered falls in their GDP, resulting in a fall in world GDP of 0.8 percentage points. However, this break, according to projections, was supposed to have been reversed as early as 2020, but one of the world's biggest pandemics called “COVID-19” appeared. Due to the huge spread of the virus, the governments of each country were forced to take restrictive measures, including the restriction on the movement of citizens between countries as a consequence World GDP dropped 3.4% in 2020, which will contribute to the unemployment of over 200 million people next year and the projections are showing that in 2023 these job losses will be equally significant. (United Nations, 2021). Additionally, the majority of industries were affected but there are some which were drastically affected as T&T industries, where Airbnb operates. It is also important to highlight that regions such as the North America and Europe which represent the largest source of income for Airbnb, as mentioned above, in 2020, suffered sharp drops of 4% 5.6% in their GDP, which translates into inherent losses for the Airbnb.

Although the world still lives in great uncertainty about the future, there is great hope that the vaccination campaigns will alleviate the number of cases of infection and successively a lessening of the restrictive measures will occur. With this, according to IMF projections, the world economy in 2022 is projected to reach a GDP growth of 4.9%. More precisely in 2022, regarding North America and Europe is projected a growth of 5%, 5.1%, respectively.

The impact of coronavirus on stock markets since the start of the outbreak



Graph 10⁴;
Source: Bloomberg (2021)

Annual % change	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Real GDP growth (Annual % change)													
Africa (Region)	3,8	3,3	2,1	3,7	3,5	3,3	-1,6	5,1	3,9	4,2	4,1	4,2	4,3
Asia and Pacific	5,5	5,6	5,4	5,7	5,3	4,2	-1,1	6,5	5,5	4,9	4,8	4,6	4,6
Central America	4,8	4,9	4,5	4,3	3,9	3,2	-7,1	7,7	4,6	4	4	4	4
Europe	1,5	1,6	1,8	2,7	2,3	1,9	-5,6	5,1	4,2	2,2	1,9	1,7	1,7
Middle East and Central Asia	3,3	2,7	4,6	2,5	2,2	1,5	-2,8	4,1	4,1	3,8	3,6	3,6	3,7
North America	2,4	2,6	1,7	2,3	2,8	2	-4	6	5	2,2	1,7	1,7	1,7
South America	0,5	-1,1	-2,4	0,8	0,5	-0,1	-6,6	6,3	2,3	2,3	2,3	2,3	2,4
Latin America and the Caribbean	1,3	0,4	-0,6	1,4	1,2	0,1	-7	6,3	3	2,5	2,3	2,4	2,4
World	3,5	3,4	3,3	3,8	3,6	2,8	-3,1	5,9	4,9	3,6	3,4	3,3	3,3
Inflation rate (Annual % change)													
Africa (Region)	7,2	7,4	9,8	12,6	11	9,2	10,8	11,6	8,4	7	6,5	6,3	6,3
Asia and Pacific	3,5	2,5	2,6	2,7	3,1	3,4	3,1	2,9	3,2	3	3	3	3
Central America	3,5	1,3	1,9	2,7	2,8	2	2	4,4	3,4	3,2	3,2	3,3	3,3
Europe	2	3	1,5	2,2	2,2	2	1,1	3	2,5	2,2	2,1	2,2	2,2
Middle East (Region)	5,1	4	3,5	2,8	7,8	5,5	9	11,6	8,3	7	6,8	6,6	6,5
North Africa	6,4	7,9	8,1	14,8	12,4	8,2	4,3	5,2	6	6,1	6	6	6
North America	1,9	0,4	1,4	2,5	2,7	2	1,4	4,3	3,4	2,6	2,5	2,4	2,4
Latin America and the Caribbean	4,9	5,4	5,5	6,3	6,6	7,7	6,4	9,3	7,8	6	5,3	4,8	4,3
Middle East and Central Asia	6,4	5,6	5,7	6,9	9,5	7,3	10,1	11,7	8,5	7,1	6,6	6,4	6,4
World	3,2	2,7	2,7	3,2	3,6	3,5	3,2	4,3	3,8	3,3	3,2	3,2	3,1

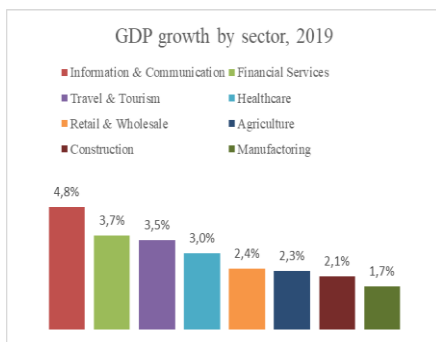
Table 1⁵;
Source: IMF (2021)

Tourism and Travel Industry

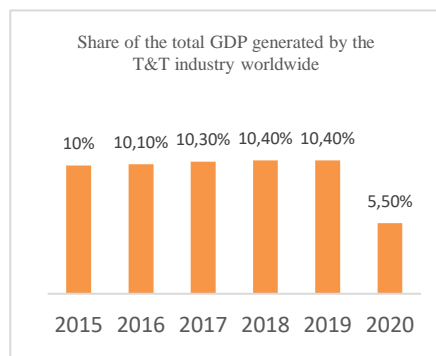
Airbnb is a part of the travel and tourism industry (T&T), which is made up of five main sectors: transportation, accommodation, travel services, entertainment, and food. Focusing, firstly, in the T&T as a whole. The T&T industry is becoming a leading and resilient sector not only because is the third industry that has a higher growth (**Graph 11**) but also due to its contribution to the world economy, according to **Graph 12**, from 2010 to 2019, the industry had contributed in average by 10% to the total global GDP, is important to highlight that due to the COVID-19 pandemic restrictions the T&T sector was sharply affected and therefore decrease its contribution to the world GDP by half, 5%, however the COVID-19 impacts will be explained detailed in the next chapter.

Additionally, another metric that can be used to analyze the growth of T&T industry is the measure of international tourism arrivals worldwide. According to the **Graph 13**, from 2015 to 2019, even though with different paces, there is growth in international tourism arrivals, meaning the world population is becoming more willing to travel & tourism across the years.

Furthermore, focusing in the sector where Airbnb is situated, the accommodation sector can be divided into package holidays, hotels, vacation rentals (Airbnb operates) and cruises. This sector was valued in 2019 at \$632B. Focusing in subsector "Vacation Rentals", where Airbnb is included, is strengthening its position in the accommodation sector by increasing its share every year, in 2020 represents 20% of total sector revenues (**Graph 14**). In terms of revenue growth, according to **Graph 15**, is understandable that had growth per year of 3% in 2018 and 2019, however in 2020 evidenced a decrease of 39%, the year in which revenues were reduced due to the pandemic, even though has strength its position in terms of revenues in accommodation sector. When compared with



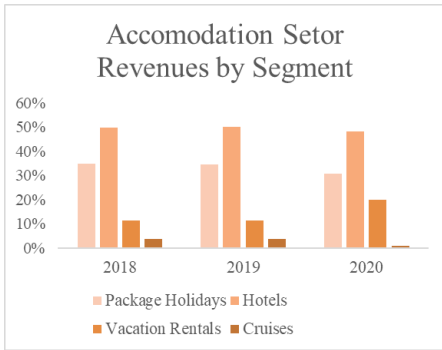
Graphic 11⁶;
Source : WTTC (2020)



Graph 12⁷;
Source: Statista 2021

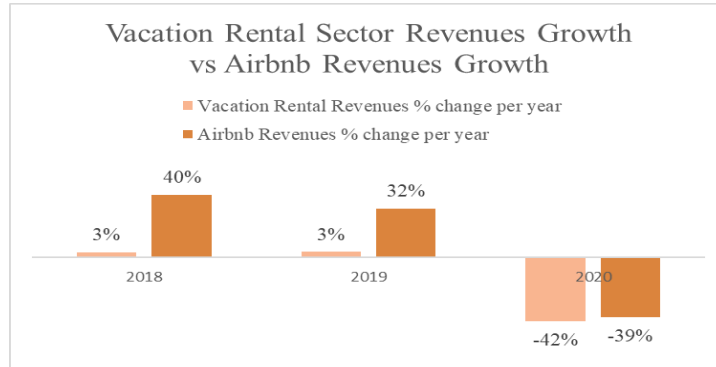


Graph 13⁸;
Source: UNWTO (2020)



Graphic 14⁹,
Source : Statista (2021)

Airbnb's revenue growth (**Graph 15**) is evidenced that the company grows at a higher pace than the subsector in which operates, particularly in 2020, Airbnb saw its revenues being less impacted than the sector itself of the past three years growth.



Graph 15¹⁰,
Source : Statista 2021 & Airbnb SEC Filling

- COVID Impacts in T&T Industry

The sector was one of the most negatively affected, owing to the sanitary rules implemented by not allowing potential visitors to travel during the pandemic in order to stop the spread of the virus, and when visitors were once again allowed, some countries required a 14-day quarantine period before granting uncontrolled access to them.

The travel and tourism industry suffered massive losses, totaling nearly \$4.5 trillion. According to the WTTC (World Travel & Tourism Council, 2021)¹¹, over 62 million jobs were lost in 2020, representing an 18.5% decrease from 2019.

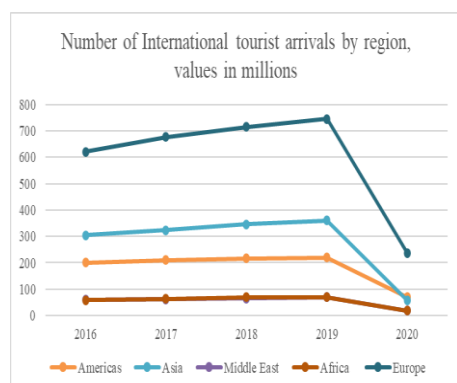
Additionally, in terms of revenue growth in the travel and tourism industry (prior to 2020 due to COVID-19) was increasing its revenues from 2017 to the end of 2019, total revenues increased year on year, but then the pandemic crisis hit in 2020, and revenues plummeted for the reasons stated above.

As a result of these losses, as mentioned above, the travel and tourism industry's contribution to global GDP decreased by nearly 50% when compared to 2019. (World Travel & Tourism Council)¹¹

- Geographic Impacts

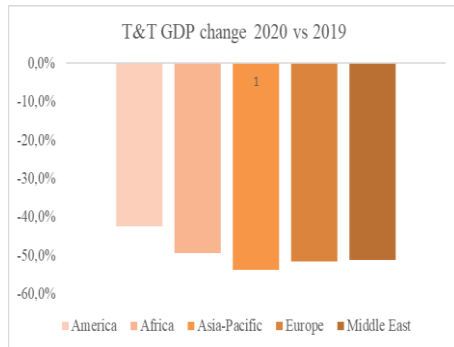
Every single region in the world suffered with pandemic in terms of T&T which translates into a decrease in the number of tourism arrivals as the **Graph 15** shows.

Regarding the Travel & Tourism GDP changes from 2019 to 2020 losses (World Travel & Tourism Council, 2021)¹¹ (**Graph 16**), America apart of



Graph 15¹²,
Source : Statista (2021)

being the most economically important region of global direct T&T GDP (35%) was the region least affected by the pandemic crisis, despite suffering a 42.4 percent loss from 2019 to 2020.



Graphic 16¹¹;
Source : World Travel & Tourism Council (2021)

Europe was the second region mostly negative impacted, fell by 51.4 percent between 2019 and 2020. The only positive aspect of Europe is that it continues to be the top region in the world in terms of international visitors . (WTTF, 2021)¹¹

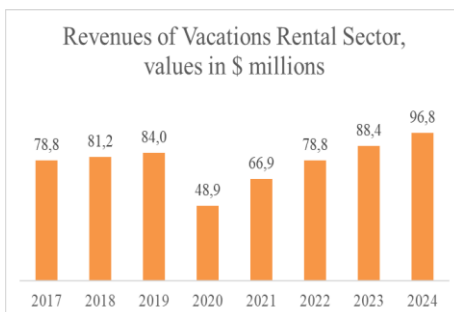
Asia-Pacific was the fastest growing market in 2019, but this outstanding performance was ruined by the Covid crisis, since it was the worst performing region in terms of losses, losing 53.7 percent from 2019 to 2020. (WTTC, 2021)¹¹. Despite this negative performance, Asia-Pacific remains the largest region for the sector employments in 2020 accounting for 55% of all global jobs of T&T industry. (WTTC, 2021)¹¹

Africa has suffered significant losses in terms of T&T industry unemployment, losing 29.3% of jobs between 2020 and 2019 (WTTC, 2021)¹¹. In 2020, it contributed \$86B to global GDP.

- Industry Projections

In terms of projections, the industry is tentatively expected to return to 2019 values in 2022/23, with a CAGR of 3-5% from 2021 to 2025, resulting in an estimated volume of \$8.9 trillion in 2026 (Industry ARC, 2021)¹³.

As Airbnb is situated in the accommodation sector and that sector is part of the travel & tourism industry, there is a positive correlation with the sector and the industry. Although we decided to go deeper into the Airbnb subsector, vacation rental which is a thriving sector with very promising projections for the coming years. Nowadays, traveler's travel preferences are changing, and they are more willing to stay in less luxurious spaces, pay less, and have a completely different experience that companies in this subsector can provide in a shared accommodation rather than staying in a traditional hotel (which still is the sector leader).



Focusing in the subsector projection numbers (**Graph 17**) is expected that revenues grew and reach higher pre-pandemic levels already in 2023 reaching in 2024, \$96.8M which is translate in a grow at CAGR of 7% between 2019 and 2024. (Yahoo Finance, 2021)¹⁴

Graph 17¹⁵;
Source : Statista (2021)

New Opportunities

The pandemic of COVID-19 changed drastically several routines of the population. The biggest change is resumed in one simply question: Can I work from home or I am obliged to go to my workplace?

The virus has broken through a several of culture and technological barriers, the idea of working remotely is becoming impressively well accepted from the companies executives since the work productivity remain the same or even higher rather than working from the normal workplace. According to a survey named "Work from Home" conducted by (New York Times, 2020)¹⁷ one in three workers revealed that will move to a new city or state if the remote work persists. Therefore, is legitim to affirm that the idea of remote working is here to stay.

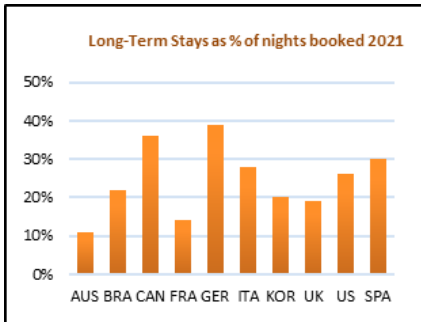
Airbnb management saw here a business opportunity where the customer can explore new cultures and new communities but also work productively. According to Airbnb Report on Travel & Living, 2021¹⁶, 74% of a sample of customers surveyed across five countries said that are interested in living in a someplace different from where their employer is based after the pandemic is over. Thereby, Airbnb developed and implemented in its business model a new option of stay named "Working From Anywhere", which basically consist in providing to its customers a comfortable, adaptable and productive places where they can use to work productively but also feel that they are at "home" and live for a long/medium-term from anywhere in the world at a reduced price when compared to normal long/medium-term stay at a hotel.

Forecasting Cost Drivers and Invested Capital

In this chapter we will cover the most relevant captions for our valuation purposes in terms of captions of the balance sheet and income statement and all the concerns we had whilst forecasting. Firstly, it is important to note that in order to fully understand the Airbnb business model we re-formulated the financial statements into core-business, non-core business and financial activities.

▪ Expenses

In Airbnb's business model the cost of revenues consists primarily of the payments of processing charges, where the merchant fees and chargebacks are included, cost associated with third-party data center's in order to keep the Airbnb platform working and finally the costs associated



Graph 18¹⁶;
Source: Airbnb Report on Travel & Living (2021)

... *working from anywhere*...

with the amortization of internally developed software and acquired technology.

In 2020 the cost of revenues suffered a decrease of 26% compared to 2019, mainly due to Covid-19 impacts. The majority of the captions of cost of revenues suffered a decrease but those which suffered most were the payment of processing charges (reduction of \$186 millions) because of the fall in the night bookings and subsequently the decrease in payments processing costs in the company's platform. With the positive signs of overcoming the Covid-19 pandemic, in 2021 we believe that the cost of revenues as a percentage of revenues will start growing as business rebounds. Moreover, as mentioned before, this caption was forecasted as a percentage of revenues and in the following years from 2022, with the growth of revenues volume, we predict that Airbnb will benefit from "network economy of scale" which first appeared with "platform businesses" such as Uber, and Facebook. In our opinion, Airbnb will benefit from network economies of scale since it has already built its strong digital infrastructure and already reached "critical mass," or a significant and sufficient number of users which allows the network do its job and assist Airbnb in spreading its message and business. As a result, the cost of acquiring a single new user decreases, while the platform's and Airbnb's business value increases. With this, Airbnb increased bargaining power and slightly reduce these revenue costs as a percentage of revenues compared to the past years by moving from 22% to 17% in 2030.

... cost of revenues as a percentage of revenues will start growing ...

... network economy of scales...



Figure 3: "50+ upgrades and innovations across our entire service";
Source: Airbnb Website, 2021

With respect to product development, which consists of the cost associated with personnel-related expenses and third-party service fees providers in connection with the development of the company's platform, it is predicted that these costs will keep increasing, since Airbnb strategy aims to have a robust platform that allows them to adapt quickly to customers' (guest and hosts) needs, as an example the project called "Winter Release 2021" (Figure 3), where Airbnb announced multiple updates to the its platform. Therefore, we predict that in the short term the company will remain with the same strategy of investing in new initiatives. We forecast that expenses on Product Development will decrease around 50% during 2021 and 2022 in order to Airbnb stabilize is "extra" costs with the pandemic but from then on we predict a growth of 15% per annum in order to reach pre-pandemic investments levels.

Regarding sales and marketing, we predict that Airbnb will increase spending in the near future to gain market share during the Covid recovery, and later capitalize on its organic growth to reduce costs and transition to

focus on net income. Thereafter, from 2022 to 2024, there will be a decrease as a percentage of revenues, since we believe that in those years Airbnb has already really reach a considerable amount of possible users and do not make sense to continuously invest a considerable amount of money in that caption but rather continue to invest in a small proportion, in moving from 30% to a constant rate of 15%. After 2024 we predict that 15% per annum.

... gain market share during Covid recovery...

... fulfil the regulations of SEC and Listings Rules of NASDAQ...

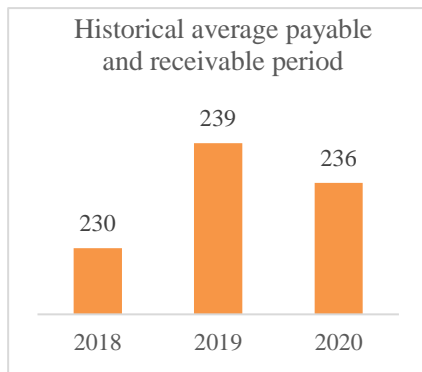
In the matter of general and administrative, which consists primarily in costs with personnel-related expenses for management and administrative functions but also where are included costs associated with accounting and finance in order to fulfil the extraordinary regulations of SEC and Listing Rules of NASDAQ that Airbnb is obliged after its IPO. Therefore, we predict that these costs will remain constant in the year of 2021 as a percentage of revenues and in the medium-long-term, starting from 2023 we believe that Airbnb will make efforts to stabilize the amount spent in this caption and allocate part of them to invest in a most needed caption to its business growth as per example the investment in intangible assets, and therefore reduce by half of the amount spent in 2022 representing 8% as a percentage of revenues over the years.

Finally, the restructuring charges represent the cost associated with the global workforce reduction of employees that occurred in May 2020 due to Covid-19 pandemic. Therefore, we predict that this caption was extraordinary only due to Covid-19 and will disappear over the coming years.

- **Core Invested Capital captions**

...investing in new software's technologies, listing relationships ...

Intangible assets are becoming the engine for boosting competitive advantage and customer value creation for developed enterprises year after year. According to a McKinsey & Company study (2021)¹⁸ the investment in intangible assets over the 25 years has increased by 25%, especially in companies like Airbnb that do not own tangible assets, where they play an even more important role in the company's growth and future long-term returns. As a result, we anticipate Airbnb investing in new software technologies, listing relationships and customer contacts in order to further differentiate itself from its competitors. In 2019 and 2020 this caption represents 2% of revenues and we predict it to be increased by 1% per each following year, due to the importance of intangible assets in the Airbnb model mentioned above, and reach in 2030 a value of 12,25% as a percentage of revenues.



Graph 21²;
Source: Airbnb SEC Filing

Funds payable/receivable and amounts held/payable to customers, particularly, in the Airbnb business model, represent the same amount in the assets and liabilities side respectively, since these values represent the cash received/paid from bookings to guests/hosts prior to check-in completions. Moreover, since we believe that there is no seasonality in this caption, we do not see any reason to increase/decrease it. Therefore, we predict the Average Collection Period and Average Payable Period in the following years as an average of the last three years, which results in 235 days. We made the same assumptions regarding the caption accounts payable.

Regarding PP&E, which represents mainly computer equipment, office furniture, buildings & lands and leasehold improvements, the forecast was predicted based on percentage of revenues. As mentioned above, Airbnb is a “technological” company that do not own as many fixed assets as may be expected of a normal company. Therefore, there is no need to increase drastically its fixed assets to increase its revenues. For that reason, a conservative approach was adopted, and we predict a small decrease of 0,1% per year as a percentage of revenues until 2030, where the percentage of revenues will represent 7%.

In terms of Goodwill, Airbnb is expected to keep making (non-tangible) investments and acquisitions as per example acquisition of “HotelTonight” to keep its expansion of customer base in the coming years. For that reason, the Goodwill is expected to grow at plus 0,5% each year as a percentage of non-current & marketable securities, moving from 60% in 2021 to 65% in 2030, representing a considerable growth over the years.

...restructuring charges that COVID-19 provoked...

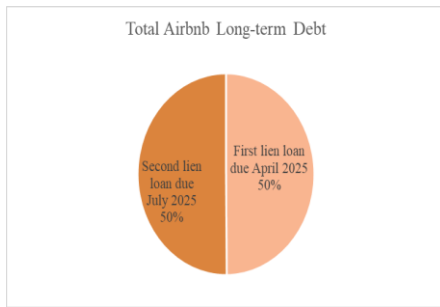
With respect to accrued expenses & other current liabilities, the forecast was made as a percentage of revenues. Is important to explain that this caption in 2020 increased drastically but this was due to the restructuring charges that Covid-19 provoked (e.g. the coupons issued to guests related to cancellations). Since 2020 was an atypical year with non-current expenses, the prediction of forecast was based only in 2018 and 2019. In both years this caption remained stable as a percentage of revenues: 25%. Therefore, we predict that there is no reason to change it over the following years.

...fewer bookings due to COVID-19...

Regarding Unearned fees, which represent the service fees collected from customers prior to check-in, these suffered a great decrease resulting from fewer bookings on the Airbnb platform due to Covid-19. In terms of forecasting, this was based as a percentage of revenues since these are

inherently correlated with it. Once again due to the atypical year of 2020 the prediction was only based with the values of 2018 and 2019 which remained stable following the amount of revenues in both years. So, there is no reason to decrease or increase. The prediction is to remain stable in the coming years, remaining as 13% of revenues.

- Non-core invested capital captions



Graph 22²;
Source: Airbnb SEC Filing

With respect to marketable securities, over the short-medium period, Airbnb can have cash constraints to serve debt obligations. Since Airbnb borrowed two loans in 2020 (First lien loan due April 2025 and Second lien loan due July 2025) (**Graph 23**) we predict that they will require these marketable securities to service this debt and sell marketable securities, reducing available marketable securities from 2022 to 10% in 2024. In the long-term (starting in 2025) Airbnb will be able to re-invest in marketable securities, growing from 2025 to 2030, reaching 40% of growth YoY in the final year of the forecast.

The operating lease right-of-use assets represents mainly the leases of offices and data centres that Airbnb has. Therefore, it is predicted that Airbnb will expand its business by increasing its revenues. In our opinion the company, even though is a “technological” company, does not need intensive investment in fixed assets to expand. It also needs to expand it on a smaller scale. Thus, from 2021 to 2022 a small increase of 1% is predicted since the company is recovering from the pandemic and will adopt a more conservative approach in leasing new offices and data center’s, but in a medium-long-term starting in 2023 it will feel more comfortable to invest more and reach 3% of growth which will remain constant until 2030. It is important to note that operating lease liabilities move in the same direction proportionally of operating lease right-of-use assets since there is the financial obligation (payments) that Airbnb has to make from the leases.

...does not need intensive investment in fixed assets to expand...

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AIRBNB, INC.

COMPANY REPORT

TRAVEL & TOURISM – ACCOMMODATION

4 JANUARY 2022

Francisco Domingues | Tiago Teixeira

45057@novasbe.pt / 46235@novasbe.pt

Travel has never been so unique

Will this stock live up to its expectations?

- We issue a price target of 109.33\$ on this stock, which translates to a **sell** recommendation at current share price.
- The current share price can only be justified by very difficult to achieve metrics for the near future, at the same time that the company faces many risks, which all summed up lead us to believe its market capitalization of over 110 billion dollars is difficult to justify with fundamentals.
- Nevertheless, Airbnb is very well positioned to capitalize on future travel trends and in the travel rebound from the pandemic, despite many difficult battles still to be fought.
- Exponential revenue growth in the last few years has been attracting many investors into taking a look into this opportunity, which also made possible for the stock to double in value in its IPO day.

Company description

Airbnb is an American company founded in 2008 by three former American schoolmates, Brian Chesky, Joe Gebbia and Nathan Blecharczyk. Airbnb is a home rental online platform, with a C2C business model, that runs in an online marketplace via website or a mobile app that allows people by “just a click way” to list, find, and rent short-term lodging all over the world, primarily referencing vacation rentals and tourism activities.

Recommendation: SELL

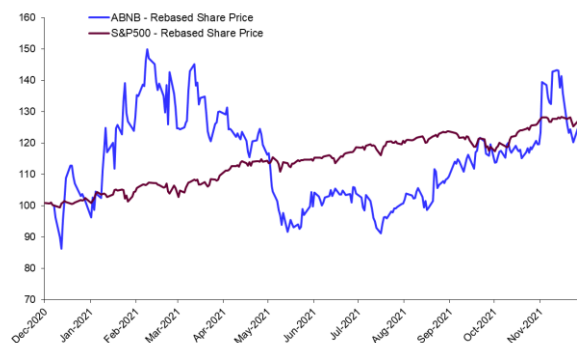
Price Target FY21: 109.33 \$

Price (as of 16-Dec-21) 180.42 \$

Reuters: Bloomberg: ABNB

52-week range (\$)	121.50-219.34
Market Cap (\$B)	114.64
Outstanding Shares (M)	628.4

Graph 1: Airbnb vs SP500 share price; Source: SP Capital IQ



(Values in \$ millions)	2020	2021E	2022F
Revenues	3,378	4,819	6,707
EBIT	(3,590)	(887)	1,073
Net Profit	(4,585)	(841)	716
Sales and Marketing costs	1,175	1,590	2,012
EPS	(16.12)	(1.34)	1.14

Source: Airbnb's Annual Report, Capital IQ and own estimates

THIS REPORT WAS PREPARED EXCLUSIVELY FOR ACADEMIC PURPOSES BY [INSER STUDENT'S NAME], A MASTER IN FINANCE STUDENT OF THE NOVA SCHOOL OF BUSINESS AND ECONOMICS. THE REPORT WAS SUPERVISED BY A NOVA SBE FACULTY MEMBER, ACTING IN A MERE ACADEMIC CAPACITY, WHO REVIEWED THE VALUATION METHODOLOGY AND THE FINANCIAL MODEL. (PLEASE REFER TO THE DISCLOSURES AND DISCLAIMERS AT END OF THE DOCUMENT)

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Figure 1: Airbnb logo;
Source: Airbnb Website

Company Overview

Company Description

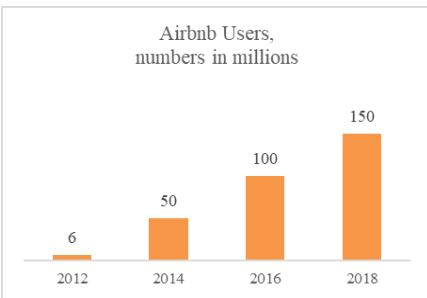
Airbnb Inc., abbreviated from "AirBedandBreakfast.com," is an American company founded in 2008 by two former American schoolmates, Brian Chesky, Joe Gebbia, and Nathan Blecharczyk. It all started when the founders needed an extra source of income and came up with the idea of renting out their own living room in order to target a certain type of traveller who wanted to stay in a cosy and comfortable place while also avoiding the customary high expenses of hotels. The plan was to turn their San Francisco apartment's living room into a makeshift bed and breakfast with an air mattress. This idea result in Airbnb "taking off" which led to what is Airbnb nowadays, a home rental online platform, with a C2C business model, that runs in an online marketplace via website or a mobile app that allows people by "just a click way" to list, find, and rent short-term lodging all over the world, primarily referencing vacation rentals and tourism activities.

- Airbnb Description in Numbers

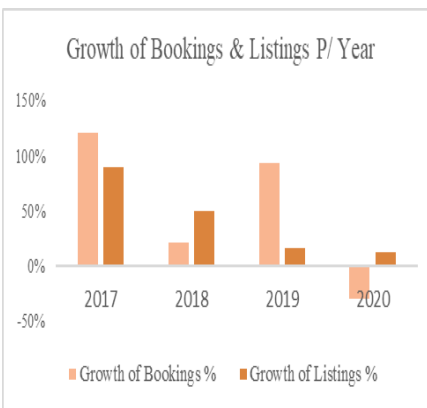
Airbnb has grown and distributed its operations, in 2020 is present in over 100,000 cities in more than 200 countries, employing 5597 people (is important to highlight due to COVID-19 Airbnb needed to reduce a quarter of its workforce, approximately in 1800 employees).

Moreover, by analyzing the graphics, we can highlight three metrics that can help understand how Airbnb is expanding its business through the years. In terms of Users (**Graph 2**), the company grew 240% from 2012 to 2018, reaching in 2018 150 million users. Regarding the total number of bookings (**Graph 3**), was growing at a good pace until 2020, where suffered a decrease of 29% mainly due to the negative impacts of COVID-19. Finally, concerning the total number of listings in its platform, Airbnb from 2017 to 2020 increase the listings in 6 millions, however, the growth from 2019 to 2020 was lower due once again to the impacts of the pandemic.

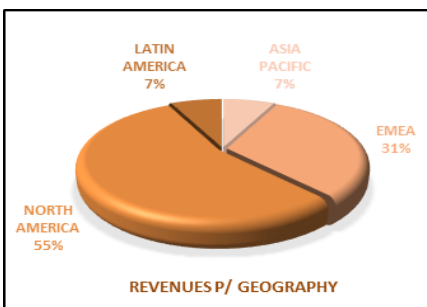
Regarding the revenues per geographical region, Airbnb revenue in 2020 was \$1.8 billion (55%) in North America, \$1.0 billion (31%) in EMEA, \$0.3 billion (7%) in Asia Pacific and \$0.3 billion (7%) in Latin America (**Graphic 4**). Additionally is important to refer that individually U.S represents 10% of Airbnb total revenue by 2020, and in terms of cities Paris, New York and Tokyo are the three cities that contribute more to the whole Airbnb revenues.



Graph 2¹: Airbnb Users, in millions;
Sources: The Guardian (2019); RJMetrics (2012); Skift (2020)



Graph 3¹:
Sources: Forbes (2018); CNBC (2017); Airbnb website (2021)



Graph 4²:
Source: Statista 2021 & Airbnb SEC Filling

Business Model

... reinvented and revolutionized ...

Airbnb reinvented and revolutionized the home stays and tourism experience, provoked a strong reaction in the travel & tourism sector which allowed the entrance of new “entrepreneurs” in the industry apart from the already existing accommodation facilities, but also provided an opportunity for travelers of a completely different type of accommodation experience.

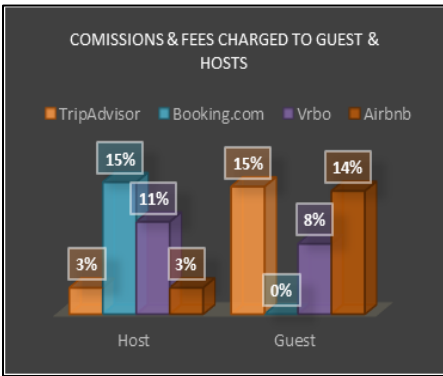
... doesn't own any physical spaces ...

First, it is important to note that Airbnb does not own any physical spaces and only operates as an intermediary between the host and the guests. Regarding Airbnb sharing business model is easy to understand, there are three process phases: the first of these is when host proposes his/her property to Airbnb website platform; the second is when Airbnb approves the property according to its regulations and requisitions and then posts it on the online platform, and finally the third phase is when the guest rents the host property on the company`s platform. Additionally, Airbnb nowadays has been forced to update its platform to match the different needs of its growing users and now has three types of segments: Airbnb classic (the normal houses), Airbnb for Work (a series of properties equipped with facilities that enable the guest to work from the address) and Airbnb Plus (a premium version listing the most luxurious houses available on the platform).

Finally, regarding the cashflow management, Airbnb uses a very similar model adopted also by “Amazon”, which consists in charging guests the total amount of the accommodation fee at the time of the booking rather than immediately before the stay begins, as is common in other areas of the tourism industry, and only release the money 24 hours after the guest checks in. In our opinion, Airbnb using this approach is preventing the listing being available for other bookings and that same conditions as advertised pertain, as well as enabling access to the rental money for potential extended period.

- **Airbnb Fees:**

In order to understand what is the impact and how fees are calculated by Airbnb, is important to understand that there are three types of fees: optional fees, service fees and taxes fees (will be disregard since depends in each country VAT policies).



Graph: 5;
Source: Companies Websites (2021)

The optional fees, added to the guest final price, were created in order to help hosts supporting extra utility costs. The most common fees being applied, nowadays, are the cleaning fees and the additional guest fees. It is also important to refer that Airbnb does not interfere in these fees, thereby they are totally controlled by the hosts.

Regarding the service fees, these are charged by Airbnb to both guests/hosts and consist mainly to cover the 24/7 Airbnb client support and marketing costs. Although, hosts and guest pay different fees rates. In other words, Airbnb charges to guests usually a 3% fee and to hosts usually a 14% fee, both charged from the final booking price (these rates may vary upwards in particularly cases of Airbnb Plus). To clearly understand let's focus in an example (excluding all VAT taxes): a host charges 100\$ for a 1 night stay, plus a 50\$ in cleaning fees this equals a subtotal of 150\$. Airbnb will charge the host 4,5\$ (3% x 150\$) charge the guest 21\$ (14% x 150\$). Additionally, the host will receive 145\$ (150\$ - 4,5\$) and the guest will pay 171\$ (150\$ + 21\$).

In the **Graph 5**, we can analyze that Airbnb, when compared with its biggest competitors, in terms of fees charged the lowest fee to hosts pair with TripAdvisor and in terms of fees charged to guests charges the second highest fee just below from TripAdvisor.

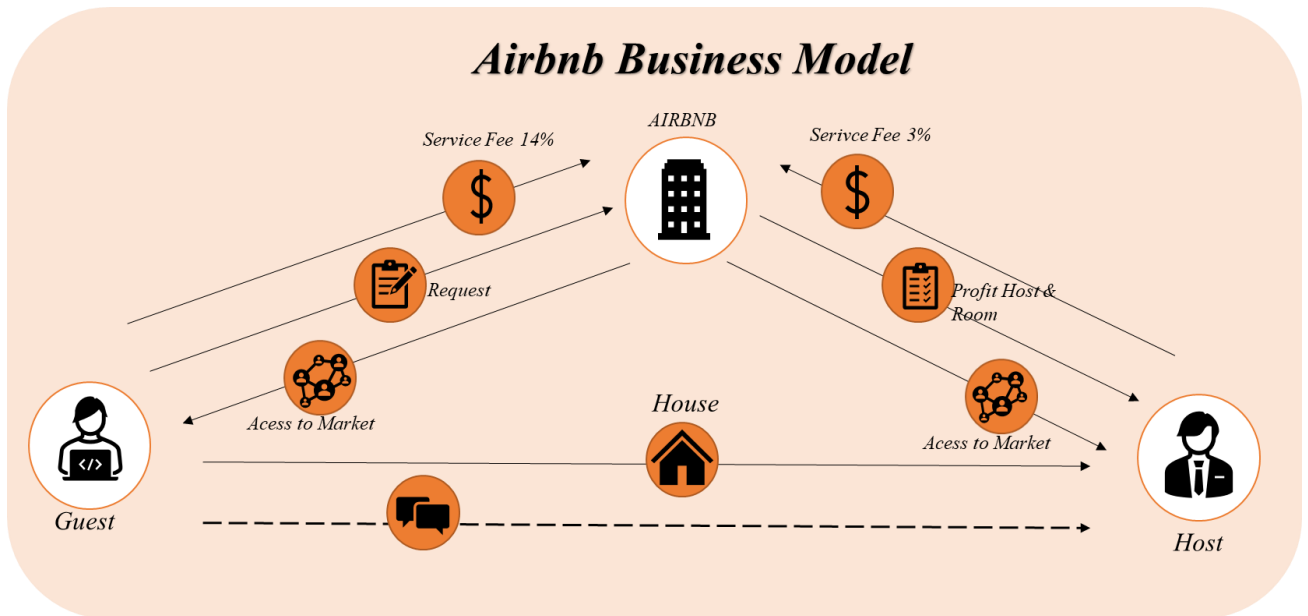
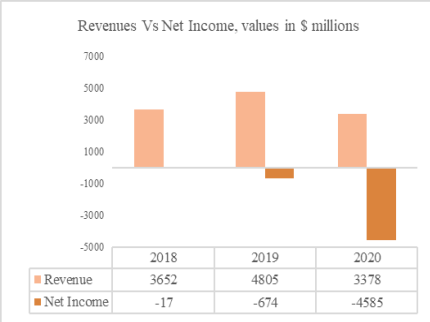


Figure 2³
Source: Airbnb Website

Financial Overview



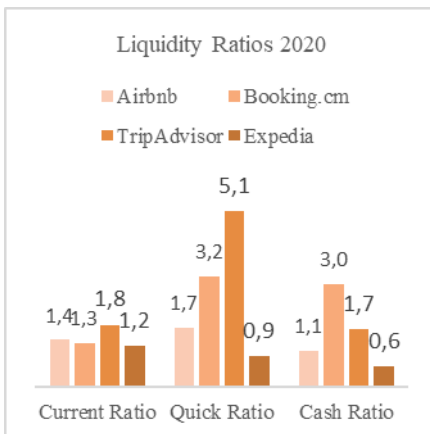
Graph: 6²;
Source: Airbnb SEC Filing

Revenues were growing at a considerable pace in the recent years until the year when in 2020 COVID-19 hit the economy. In practical terms, grew 35% in 2018 and 31% in 2019, however in 2020 suffer a decrease of (41%). Despite considerable revenues, in terms of net income, Airbnb evidenced in the last three years negatives values, in 2018 of (\$17M), in 2019 a value of (\$674M) and in 2020 (\$4.6B) (**Graph 6**).

Additionally, the factors that contributed most for the negative income were cost of revenues, which represented 25% in 2019 and 26% 2020 of total revenues respectively, and the cost with sales & marketing (part of Airbnb strategy) which represented 34% in 2019 and 30% in 2020 of total costs & expenses respectively. (**Graph 6**). However, in 2020, is important to highlight other two factors that also contributed for the growth of negative income, the first is that Airbnb increased by 181% the amount invested (2.7B\$) in product development, the company primarily invested in its platform by developing new initiatives of software's and technologies in order to power Airbnb global network of hosts and guests. The second is the atypical 151M\$ cost that Airbnb had associated with amendments and terminations of contracts due to the global workforce reduction due to the impacts of the pandemic.

On the subject of a briefly description of Airbnb capital structure, the company's total assets have been increasing since 2018 and that in 2020 it stands at \$10.5B (26% increase compared to 2019), of which \$8.9B correspond to current assets, liabilities have a value of \$4.6B in 2020 (decrease of 1% compared to 2019), with current liabilities representing \$7.6B.

When we compare Airbnb's liquidity ratios to those of its biggest competitors (**Graph 7**), we see that in terms of the current ratio, Airbnb is in line with its competitors, with a ratio of 1,4x indicating that the company's short-term assets are in line with its short-term liabilities. In terms of quick ratio, Airbnb has a positive ratio of 1.7, which, while much lower than Booking.com and TripAdvisor, indicates that the company is comfortable paying its current liabilities with its most liquid assets. In terms of cash ratio, Airbnb has a value of 1.1 indicating that the company can meet all of its obligations using only cash and equivalents. Furthermore, we believe it is important to emphasize that a cash ratio as high as Booking.com does not necessarily indicate that the company is in a better position or performing better than Airbnb, but it may be a sign of the company is letting the money "stagnate in the bank." or is not efficient in utilizing cash to create value by investing in profitable projects.



Graph: 7²;
Source: Airbnb Annual Report (2020)

To sum up, Airbnb evidences a good “health” in terms of liquidity ratios which is aligned when comparing with its competitors, which can be a good for Airbnb to protect himself from further unforeseen changes in market conditions.

Shareholder Structure and Market Conditions

... recent hot IPO ...

Airbnb went public very recently, having its IPO on December 10, 2020, at a difficult time for the industry. Shares were originally priced at 68\$ (valuating the company at \$47B) and opened on the first trading day at 146\$, a more than 112% increase from the day before. That day, shares closed at 144.71\$, corresponding to a market cap of about \$86.5B, surpassing hotel chains such as Marriott and Hilton, or even Delta Air Lines. Shares are listed on the Nasdaq.

Since that day, the share price has been very volatile. In February 2021, shares hit an all-time high of 219.94\$, but they have been traded as low as 121.50\$ just five days after the IPO. On December 10, volume hit 70.45 Million shares. As of 13/12/2021, shares are valued at \$180.42, corresponding to a market cap of \$114.68B. Investors who grabbed the stock at primary market have today a very respectable gross return of 165.32%.

With all this in mind, we consider that Airbnb had huge return from its IPO price because off all the hype, conversation and trading volume supporting it. Also, the monetary policy in the US to support markets during the pandemic, led by the former President Donald Trump (who had looked at S&P performance has a metric to his success has President), President Joe Biden and Chairman of the Federal Reserve Jerome Powell, flooded the US Equity Markets with lots of “lose money” with multiple stimulus packages and arguably overvalued markets and IPO`s in the past two years and higher and higher enterprise value multiples.

... capable and proactive founders ...

As per the capital structure, the top 25 shareholders own 64.69% of the company. Founders of Airbnb are:

- Brian Chesky: Chief Executive Officer, Head of Community, Co-Founder, and Chairman of the Board
- Joseph Gebbia: Chairman of Samara and Airbnb.org, Co-Founder, and Director
- Nathan Blecharczyk: Chief Strategy Officer, Chairman of Airbnb China, Co-Founder, and Director

Alongside them as Executive Officers, Dave Stephenson is the CFO, Aristotle Balogh is the CTO and Catherine Powell is Global Head of Hosting. Common stock

is multi-series, so that directors and executive officers retain voting power after the IPO, who will hold in the aggregate 58.8% of the voting power of the capital stock following the offering. Also, Airbnb insists that their CEO owns shares of company common stock equal to ten times his base salary and each of the other executive officers holds shares of company common stock equal to five times his or her base salary.

Peers

Airbnb operates in a way that it considers both its guests and its hosts as customers, “guests attract hosts, and hosts attract guests”. Managing and acquiring these two customer bases is key for Airbnb success and it differentiates and puts Airbnb at an advantage over its peers. This business and industry is highly competitive, as it focuses on attracting both guests and hosts.

- For hosts:

At the current moment, Airbnb’s most important competitors are Booking Holdings, FlipKey, Expedia Group (including its many subsidiaries such as Expedia, Vrbo, HomeAway and Hotels.com).

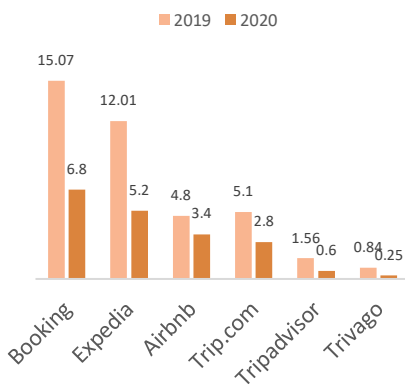
- For guests:

Listing and meta search websites such as TripAdvisor and Trivago, other online travel agencies like Booking and Expedia and Hotel Chains. Over recent years, competitors have adopted some aspects of the Airbnb business model. Airbnb provides a different value proposition in contrast to hotels, by accommodating tourists into places where locals actually live, and so providing more authentic experiences.

Airbnb wants to keep developing in its business to create new offerings and initiatives that are key differentiators, such as Airbnb Experiences. Other key differentiators include Airbnb’s global reach, loyalty and close relationship with hosts and guests, and their platform.

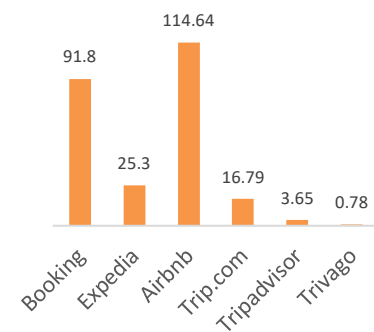
The graphs in this section help us contextualize Airbnb on its competitive landscape. They have set their presence dominantly in a new way to travel they created but that could, in theory, be easily replicated by competitors. But their business model has some barriers to entry, as it is very difficult to build the

Online Travel Agencies, by revenues, numbers in \$B



Graph 8⁴; Source: Statista (2021)

Online Travel Agencies by Market Cap, numbers in \$B



Graph 9; Source: Yahoo Finance (December 2021)

customer and host base from the start, and Airbnb keeps excellent relations with hosts, to keep them opting for Airbnb.

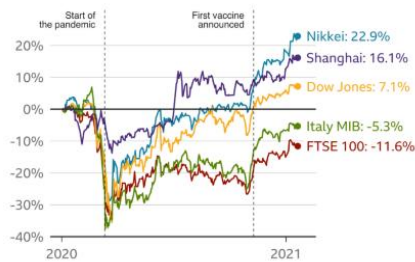
By 2020 numbers, Airbnb had the third larger revenues in the OTA’s industry, only surpassed by Expedia and Booking. Regarding the market cap, Airbnb had the biggest valuation, as for December 2021, by over 20% in comparison to Booking Group.

Industry Overview

Macroeconomic Outlook

Since the end of 2008 world financial crisis and years later the 2012 sovereign debt in Europe, the world economy was starting to show in 2013/14 signs to be overcoming it and reveal strong growth, both in developed and developing markets. However, this positive trend began to slightly reverse in 2019, where, according to **table 1**, all regions registered falls in their GDP, resulting in a fall in world GDP of 0.8 percentage points. However, this break, according to projections, was supposed to have been reversed as early as 2020, but one of the world's biggest pandemics called “COVID-19” appeared. Due to the huge spread of the virus, the governments of each country were forced to take restrictive measures, including the restriction on the movement of citizens between countries as a consequence World GDP dropped 3.4% in 2020, which will contribute to the unemployment of over 200 million people next year and the projections are showing that in 2023 these job losses will be equally significant. (United Nations, 2021). Additionally, the majority of industries were affected but there are some which were drastically affected as T&T industries, where Airbnb operates. It is also important to highlight that regions such as the North America and Europe which represent the largest source of income for Airbnb, as mentioned above, in 2020, suffered sharp drops of 4% 5.6% in their GDP, which translates into inherent losses for the Airbnb.

The impact of coronavirus on stock markets since the start of the outbreak

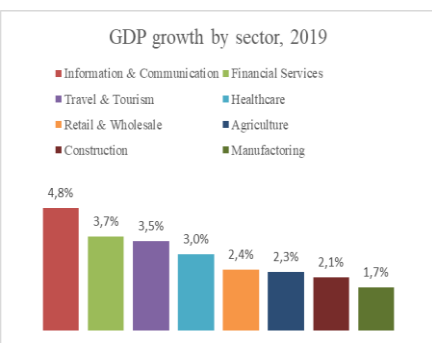


Graph 10⁵;
Source: Bloomberg (2021)

Although the world still lives in great uncertainty about the future, there is great hope that the vaccination campaigns will alleviate the number of cases of infection and successively a lessening of the restrictive measures will occur. With this, according to IMF projections, the world economy in 2022 is projected to reach a GDP growth of 4.9%. More precisely in 2022, regarding North America and Europe is projected a growth of 5%, 5.1%, respectively.

Annual % change	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Real GDP growth (Annual % change)													
Africa (Region)	3,8	3,3	2,1	3,7	3,5	3,3	-1,6	5,1	3,9	4,2	4,1	4,2	4,3
Asia and Pacific	5,5	5,6	5,4	5,7	5,3	4,2	-1,1	6,5	5,5	4,9	4,8	4,6	4,6
Central America	4,8	4,9	4,5	4,3	3,9	3,2	-7,1	7,7	4,6	4	4	4	4
Europe	1,5	1,6	1,8	2,7	2,3	1,9	-5,6	5,1	4,2	2,2	1,9	1,7	1,7
Middle East and Central Asia	3,3	2,7	4,6	2,5	2,2	1,5	-2,8	4,1	4,1	3,8	3,6	3,6	3,7
North America	2,4	2,6	1,7	2,3	2,8	2	-4	6	5	2,2	1,7	1,7	1,7
South America	0,5	-1,1	-2,4	0,8	0,5	-0,1	-6,6	6,3	2,3	2,3	2,3	2,3	2,4
Latin America and the Caribbean	1,3	0,4	-0,6	1,4	1,2	0,1	-7	6,3	3	2,5	2,3	2,4	2,4
World	3,5	3,4	3,3	3,8	3,6	2,8	-3,1	5,9	4,9	3,6	3,4	3,3	3,3
Inflation rate (Annual % change)													
Africa (Region)	7,2	7,4	9,8	12,6	11	9,2	10,8	11,6	8,4	7	6,5	6,3	6,3
Asia and Pacific	3,5	2,5	2,6	2,7	3,1	3,4	3,1	2,9	3,2	3	3	3	3
Central America	3,5	1,3	1,9	2,7	2,8	2	2	4,4	3,4	3,2	3,2	3,3	3,3
Europe	2	3	1,5	2,2	2,2	2	1,1	3	2,5	2,2	2,1	2,2	2,2
Middle East (Region)	5,1	4	3,5	2,8	7,8	5,5	9	11,6	8,3	7	6,8	6,6	6,5
North Africa	6,4	7,9	8,1	14,8	12,4	8,2	4,3	5,2	6	6,1	6	6	6
North America	1,9	0,4	1,4	2,5	2,7	2	1,4	4,3	3,4	2,6	2,6	2,5	2,4
Latin America and the Caribbean	4,9	5,4	5,5	6,3	6,6	7,7	6,4	9,3	7,8	6	5,3	4,8	4,3
Middle East and Central Asia	6,4	5,6	5,7	6,9	9,5	7,3	10,1	11,7	8,5	7,1	6,6	6,4	6,4
World	3,2	2,7	2,7	3,2	3,6	3,5	3,2	4,3	3,8	3,3	3,2	3,2	3,1

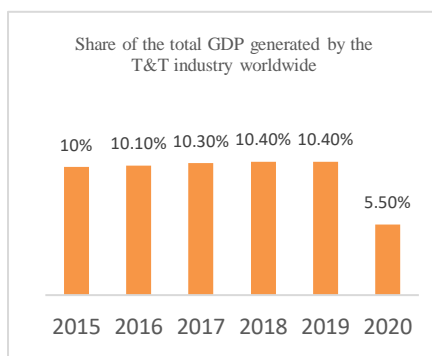
Table 1⁶,
Source: IMF (2021)



Graphic 11⁷,
Source : WT&TC (2020)

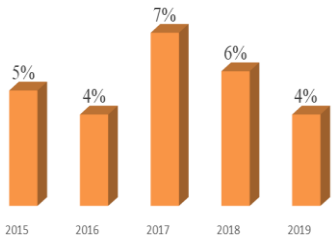
Tourism and Travel Industry

Airbnb is a part of the travel and tourism industry (T&T), which is made up of five main sectors: transportation, accommodation, travel services, entertainment, and food. Focusing, firstly, in the T&T as a whole. The T&T industry is becoming a leading and resilient sector not only because is the third industry that has a higher growth (**Graph 11**) but also due to its contribution to the world economy, according to **Graph 12**, from 2010 to 2020, the industry had contributed in average by 10% to the total global GDP, is important to highlight that due to the COVID-19 pandemic restrictions the T&T sector was sharply affected and therefore decrease its contribution to the world GDP by half 5%, however the COVID-19 impacts will be explained detailed in the next chapter.



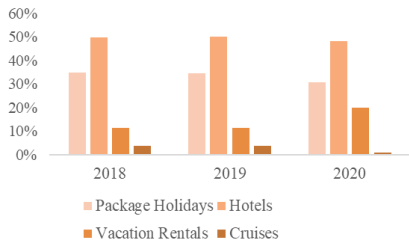
Graphic 12⁸,
Source : Statista (2021)

% change of International Tourist Arrivals (World)



Graph 13⁹;
Source: UNWTO (2020)

Accommodation Sector Revenues by Segment

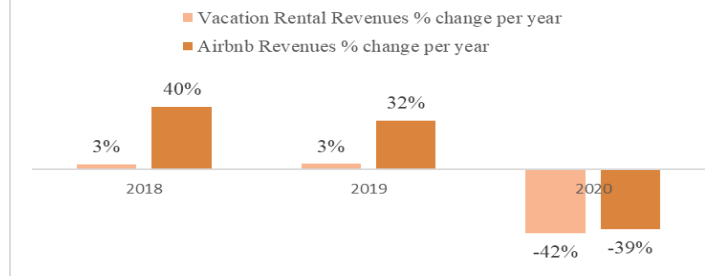


Graphic 14¹⁰;
Source : Statista (2021)

Additionally, another metric that can be used to analyze the growth of T&T industry is the measure of international tourism arrivals worldwide. According to the **Graph 13**, from 2015 to 2019, even though with different paces, there is growth in international tourism arrivals, meaning the world population is becoming more willing to travel & tourism across the years.

Furthermore, focusing in the sector where Airbnb is situated, the accommodation sector can be divided into package holidays, hotels, vacation rentals (Airbnb operates) and cruises. This sector was valued in 2019 at \$632B. Focusing in subsector “Vacation Rentals”, where Airbnb is included, is strengthening its position in the accommodation sector by increasing its share every year, in 2020 represents 20% of total sector revenues (**Graph 14**). In terms of revenue growth, according to **Graph 15**, is that had growth per year of 3% in 2018 and 2019, however in 2020 evidenced a decrease of 39%, the year in which revenues were reduced due to the pandemic, even though has strength its position in terms of revenues in accommodation sector. When compared with Airbnb revenue growth (**Graph 15**) is evidenced that the company grows at a higher pace than the subsector in which operates, particularly in 2020, Airbnb saw its revenues being less impacted than the sector itself of the past three years growth.

Vacation Rental Sector Revenues Growth vs Airbnb Revenues Growth



Graph 15¹¹;
Source : Statista 2021

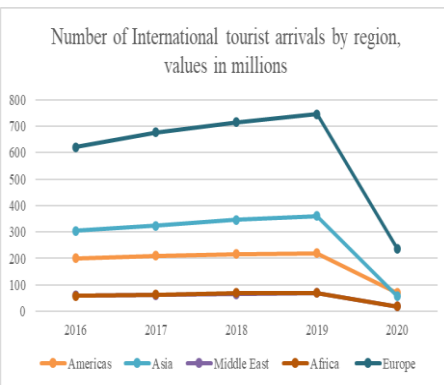
▪ COVID Impacts in T&T Industry

The sector was one of the most negatively affected, owing to the sanitary rules implemented by not allowing potential visitors to travel during the pandemic in order to stop the spread of the virus, and when visitors were once again allowed, some countries required a 14-day quarantine period before granting uncontrolled access to them.

The travel and tourism industry suffered massive losses, totaling nearly \$4.5 trillion,. According to the WTTC (World Travel & Tourism Council, 2021)¹², over 62 million jobs were lost in 2020, representing an 18.5% decrease from 2019.

In terms of revenue growth, the travel and tourism industry (prior to 2020 due to COVID-19) was increasing its revenues. From 2017 to the end of 2019, total revenues increased year on year, but then the pandemic crisis hit in 2020, and revenues plummeted for the reasons stated above.

As a result of these losses, as mentioned before, the travel and tourism industry's contribution to global GDP decreased by nearly 50% when compared to 2019. (World Travel & Tourism Council)¹¹



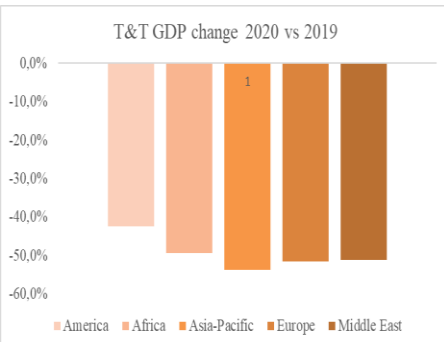
Graph 16¹³,
Source : Statista (2021)

▪ Geographic Impacts

Every single region in the world suffered with pandemic in terms of T&T which translates into a decrease in the number of tourism arrivals as the **Graph 16** shows.

Regarding the Travel & Tourism GDP changes from 2019 to 2020 losses (**Graph 17**), America apart of being the most economically important region of global direct T&T GDP (35%) (World Travel & Tourism Council, 2021)¹², was the region least affected by the pandemic crisis, despite suffering a 42.4 percent loss from 2019 to 2020.

Europe was the second region mostly negative impacted, fell by 51.4 percent between 2019 and 2020. The only positive aspect of Europe is that it continues to be the top region in the world in terms of international visitors (WTTF, 2021)¹².



Graphic 17¹²,
Source : World Travel & Tourism Council (2021)

Asia-Pacific was the fastest growing market in 2019, but this outstanding performance was ruined by the Covid crisis, since it was the worst performing region in terms of losses, losing 53.7 percent from 2019 to 2020. (WTTC, 2021)¹². Despite this negative performance, Asia-Pacific remains the largest region for the sector employments in 2020 accounting for 55% of all global jobs of T&T industry (WTTC, 2021)¹².

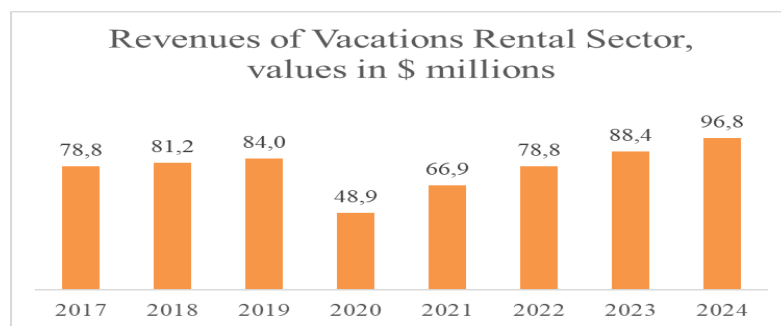
Africa has suffered significant losses in terms of T&T industry unemployment, losing 29.3% of jobs between 2020 and 2019. (WTTC, 2021)¹². In 2020, it contributed \$86B to global GDP.

▪ Industry Projections

In terms of projections, the industry is tentatively expected to return to 2019 values in 2022/23, with a CAGR of 3-5% from 2021 to 2025, resulting in an estimated volume of \$8.9 trillion in 2026 (Industry ARC, 2021)¹⁴.

As Airbnb is situated in the accommodation sector and that sector is part of the travel & tourism industry, there is a positive correlation with the sector and the industry. Although we decided to go deeper into the Airbnb subsector, vacation rental which is a thriving sector with very promising projections for the coming years. Nowadays, travelers' travel preferences are changing, and they are more willing to stay in less luxurious spaces, pay less, and have a completely different experience that companies in this subsector can provide in a shared accommodation rather than staying in a traditional hotel (which still is the sector leader).

Focusing in the subsector projection numbers (**Graph 18**) is expected that revenues grew and reach higher pre-pandemic levels already in 2023 reaching in 2024, \$96,8M which is translate in a grow at CAGR of 7% between 2019 and 2024. (Yahoo Finance, 2021)¹⁵

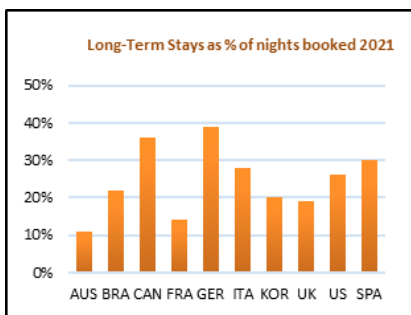


Graph 18¹⁶;
Source : Statista (2021)

New Opportunities

The pandemic of COVID-19 changed drastically several routines of the population. The biggest change is resumed in one simply question: Can I work from home or I am obliged to go to my workplace?

The virus has broken through a several of culture and technological barriers, the idea of working remotely is becoming impressively well accepted from the companies executives since the work productivity remain the same or even higher rather than working from the normal workplace. According to a survey named "Work from Home" conducted by (New York Times, 2020)¹⁸ one in three workers revealed that will move to a new city or state if the remote work persists. Therefore, is legitim to affirm that the idea of remote working is here to stay.



Graph 19; Graph 19¹⁷;
Source: Airbnb Report on Travel & Living (2021)

... **working from anywhere...**

Airbnb management saw here an outstanding business opportunity where the customer can explore new cultures and new communities but also work

productively. According to Airbnb Report on Travel & Living, 2021¹⁷, 74% of a sample of customers surveyed across five countries said that are interested in living in a someplace different from where their employer is based after the pandemic is over. Thereby, Airbnb developed and implemented in its business model a new option of stay named “ Working From Anywhere”, which basically consist in providing to its customers a comfortable, adaptable and productive places where they can use to work productively but also feel that they are at “home” and live for a long/medium-term from anywhere in the world at a reduced price when compared to normal long/medium-term stay at a hotel.

Presence of Airbnb

Airbnb is recognized across the globe and gained a greater reputation with its recent IPO. Where can Airbnb find niche markets and geographies to expand to in the future?

The rise of emerging markets in global tourism presents an opportunity where Airbnb wants to focus and capitalize in the coming years. By 2030, more than 2.1 billion travellers will arrive in emerging economies annually (Airbnb Website, 2019)¹⁹.

Airbnb is growing rapidly in this market, including in China and India. We consider this expansion key for Airbnb’s future success, as a key factor for revenue growth.

Airbnb looks to expand its customer base and to serve different demand by creating and innovating their offering. With Airbnb Luxe, guests can rent high-end houses for special stays, at higher rents, with luxurious commodities and personalized services (such as masseuses, drivers and chefs). With Airbnb Plus, Airbnb filters the “best of the best” hosts, to provide the ultimate experience for guests. These houses and stays are inspected for quality by Airbnb. With the recent acquisition of HotelTonight (Airbnb’s biggest acquisition to date), Airbnb tapped into the Hotel Industry. This deal rounded the \$465M (although the deal was undisclosed (NY Times, 2019)²⁰, paid in stock and cash. HotelTonight had raised around \$127M since inception (11 founding rounds, Crunchbase, 2021)²¹. This deal allows Airbnb to acquire the relationships with hotels and platform HotelTonight had built, and HotelTonight could further profit from this deal if the stock appreciates after IPO, which it did.

... differentiation and innovation to increase customer base ...

... M&A activity in OTA’s ...

Airbnb has been active in M&A, having been involved in 24 acquisitions in total vs 13 acquisitions by Expedia and 17 acquisitions by Booking Group (Capital IQ,

2021)²². This shows the confidence of the management board on the future of the group and its expansion worldwide and through different T&T sub-sectors.

Investment Risks

... Airbnb currently faces multiple risks ...

At the moment, Airbnb faces multiple risks and uncertainties that one has to take into consideration before making an investment.

... future Covid outbreaks and variants ...

First and foremost, Covid-19. It had a huge impact on the travel industry. Several travel restrictions remain in place, many countries still have closed borders and there are many questions to be answered as to vaccine efficiency in the long term, as well as the danger of future new variants of the virus. The rebound of tourism has begun, and the will to travel hasn't decreased. People do want to travel. Nevertheless, it is still not clear how the future will roll out. Also, Airbnb is exposed to future pandemic crises in the world or countries in which it operates. This quantifies as an increased difficulty to forecast tourism worldwide, which should be incorporated in the stock price as a more *bearish* approach in regards to forecasting revenue growth.

... still on growth phase ...

Second, Airbnb is still in growing phase, and heavily invests in growth. They haven't achieved profitability yet and incurred a net loss of \$4.5B in 2020 (although they were very close to break-even in 2017 and 2018). This translates in increased risk, that is considered in this report on the WACC through the Beta component.

... industry has a lot of competition ...

Third, Airbnb faces heavy competition in attracting and retaining guests and hosts and failing to do so can impact heavily on growth and revenues. Investments and efforts to differentiate Airbnb are costly and risky. Creating new offerings and initiatives is key for competitive advantage and failing to deliver these can put Airbnb behind competitors.

... no profit and fragile financial situation ...

Also, Airbnb's current financial situation and indebtedness affects their flexibility and independency. There is no certainty that future operational results will be sufficient to service this debt. This reduces cash available for investment and growth and might make it difficult for Airbnb to keep developing its platform and offering as to stay ahead of its peers.

... flying is not particularly "green" ...

Finally, a risk that would be unwise to overlook is climate change. It is not still clear if climate change and the increasing urge to implement measures and control CO2 emissions in order to reach net-zero emissions and the 1.5 degrees Celsius target will affect the travel industry, as flying is currently not very "climate-friendly". Google flights already shows CO2 emissions per passenger, as people are

becoming more and more aware of this problem, and try to make more conscious decisions as consumers.

Valuation

In this valuation, Income Statement, Balance Sheet and Free Cash Flows were projected over 9 years, up to 2030. Airbnb is peaking its growth phase and it is also a trending stock right now. Its volatility presents an added difficulty in making a valuation, but also more importantly it increases the uncertainty of considering Airbnb as a possible investment opportunity.

Forecasting Tourism and Travel

Forecasting tourism and travel is key for valuing Airbnb. Of course, there is high doubt and uncertainty as to how the world will bounce back from Covid, when governments will lift restrictions, if vaccines have long term efficiency, and so on. But, through some reports, we constructed a forecast for International Tourist Arrivals Worldwide (ITAW). We obtained data from Statista²³ for 2015 up to 2020. Onwards, we combined research from various sources and studies, such as UNTWO²⁴, European Travel Commission²⁵, Google Travel²⁶, among others combined with some macroeconomic indicators, such as GDP growth, because traveling has a correlation with wealth and disposable income.

... difficult to forecast global tourism ...

Revenues Forecasting Model

Probably the most important part of evaluating Airbnb is forecasting revenues. These have historically been very volatile, but also growing at a high pace, until the pandemic hit all of us. Also, these future revenues are subject to many questions and uncertainties.

To start this forecast, we looked at and studied two important Key Business Metrics of Airbnb that are used by the company to evaluate its performance and which are shared with shareholders every fiscal Quarter. These are Annual Nights and Experiences Booked (ANEB, sum of the total number of nights for stays and the total number of seats booked for experiences, net of cancellations and alterations) and Gross Booking Value (GBV, dollar value of bookings on the platform, including Host earnings, service fees, cleaning fees, and taxes net of cancellations and alterations). With these values, we created two Key Business Metrics that, together, make it possible to forecast revenues.

... revenues growing at strong pace ...

... uncertainty ahead ...



Graph 20;
Source: Statista (2021)

First, we computed what we called Airbnb Market Share (Percentage of tourist arrivals that translate into a night booked in Airbnb), by simply dividing ANEB by ITAW. Then, we forecasted this KBM based on past growth, investment in marketing and acquisitions, and also considering Airbnb's capability of growing organically in an efficient way, expand its services to even more countries and capitalize on different types of travellers (for example, long-term stays).

Now, we can compute a forecast for ANEB until 2030 by simply multiplying ITAW with Airbnb Market Share.

Our last KBM is Revenue per Night and Experience Booked (dollar value of Revenue Airbnb made for every Night and Experience Booked on its platform). We simply divided Revenues with ANEB to compute this. Then, we noticed a slow but steady and consistent growth trend in this number, which grew from 12.69\$ in 2015 to 14.70\$ in 2019 (and 17.49\$ in 2020, but, in our view, this value is skewed by the pandemic, as travelling was difficult and expensive, and so mostly accessible by wealthy travellers, who rented expensive listings). Considering this trend, computing its average growth and looking to targets Airbnb is focusing on achieving, we forecasted Revenue per Night and Experience Booked. We expect a correction to pre-pandemic values in 2022 and 2023, followed by a slight increase over the years, as Airbnb expands its offering into more luxurious listings and better houses and living conditions (as for example, great Wi-Fi speed for remote working) and disposable income increases in main countries Airbnb operates (specially the United States).

Finally, Revenues are forecasted to 2030 by multiplying forecasted Revenue per Night Booked by forecasted ANEB.

$$(Eq. 1) \text{ Revenue} = \text{Revenue per Night and Experience Booked} * \text{ANEB}$$

$$(Eq. 2) \text{ ANEB} = \text{ITAW} * \text{Airbnb Market Share}$$

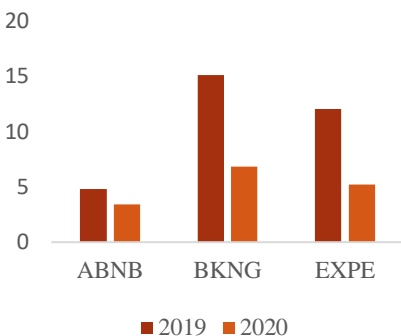
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
ITAW (millions)	586.4	1099.5	1319.4	1466.0	1547.4	1633.3	1723.9	1819.6	1920.6	2027.2
Airbnb Market Share	47.0%	40.0%	37.0%	39.0%	41.0%	43.0%	45.0%	47.0%	49.0%	51.0%
ANEB (millions)	275.6	439.8	488.2	571.7	634.4	702.3	775.8	855.2	941.1	1033.9
\$ Revenue per night and experience booked	17.5	15.3	15.8	16.4	17.0	17.7	18.3	19.0	19.7	19.7
Revenue	\$ 4,819,144,255	\$ 6,707,387,060	\$ 7,724,571,875	\$ 9,386,266,118	\$ 10,806,173,896	\$ 12,411,274,761	\$ 14,223,952,313	\$ 16,269,172,765	\$ 18,574,773,743	\$ 20,406,071,155

Table 2: Revenues Forecasting Model

Resilience

Two other topics important to point out for the future of Airbnb are its resilience and how it reacted to the Covid pandemic, compared to the other main OTA's.

Revenues, numbers in \$B



Graph 21;
Source: Company Reports (2020)

During the pandemic, Airbnb launched its “Go Near” program. This campaign focused on short-distance travel, so mostly promoted domestic travel, because international travel was highly restricted. It developed its App to suggest near and domestic destinations. It also partnered with local communities to promote travel and economic growth. This initiative helped softening the Covid revenues hit, while at the same time keeping the users and hosts engaged with Airbnb.

With this, Airbnb manage to register a **30%** drop in revenues from 2019 to 2020, compared to a **55%** decrease in revenues from Booking Holdings (from \$15.07B to \$6.8B) and a **57%** decrease in revenues from Expedia Group (from \$12.01B to \$5.2B).

The 2021 Winter Release focus on remote work, by introducing new features like Wi-Fi speed in house description, with intention to capture more remote workers and increase long-term stays and expands the “I’m flexible” program.

Forecasting Cost Drivers and Invested Capital

In this chapter we will cover the most relevant captions for our valuation purposes in terms of captions of the balance sheet and income statement and all the concerns we had whilst forecasting. Firstly, it is important to note that in order to fully understand the Airbnb business model we re-formulated the financial statements into core-business, non-core business and financial activities.

- Expenses

In Airbnb’s business model the cost of revenues consists primarily of the payments of processing charges, where the merchant fees and chargebacks are included, cost associated with third-party data center’s in order to keep the Airbnb platform working and finally the costs associated with the amortization of internally developed software and acquired technology.

In 2020 the cost of revenues suffered a decrease of 26% compared to 2019, mainly due to Covid-19 impacts. The majority of the captions of cost of revenues suffered a decrease but those which suffered most were the payment of processing charges (reduction of \$186 millions) because of the fall in the night bookings and subsequently the decrease in payments processing costs in the company’s platform. With the positive signs of overcoming the Covid-19 pandemic, in 2021 we believe that the cost of revenues as a percentage of revenues will start growing as business rebounds. Moreover, as mentioned before, this caption was forecasted as a percentage of revenues and in the following years from 2022, with

... cost of revenues as a percentage of revenues will start growing ...

... network economy of scales...

the growth of revenues volume, we predict that Airbnb will benefit from “network economy” which first appeared with "platform businesses" such as Uber and Facebook. In our opinion, Airbnb will benefit from network economies of scale since it has already built its strong digital infrastructure and already reached "critical mass," or a significant and sufficient number of users which allows the network do its job and assist Airbnb in spreading its message and business. As a result, the cost of acquiring a single new user decreases, while the platform's and Airbnb's business value increases. With this, Airbnb increased bargaining power and slightly reduce these revenue costs as a percentage of revenues compared to the past years by moving from 22% to 17% in 2030.

With respect to product development, which consists of the cost associated with personnel-related expenses and third-party service fees providers in connection with the development of the company`s platform, it is predicted that these costs will keep increasing, since Airbnb strategy aims to have a robust platform that allows them to adapt quickly to customers' (guest and hosts) needs, as an example the project called “Winter Release 2021” (**Figure 3**), where Airbnb announced multiple updates to the its platform. Therefore, we predict that in the short term the company will remain with the same strategy of investing in new initiatives. We forecast that expenses on Product Development will decrease around 50% during 2021 and 2022 in order to Airbnb stabilize is “extra” costs with the pandemic but from then on we predict a growth of 15% per annum in order to reach pre-pandemic investments levels.



Figure 3: "50+ upgrades and innovations across our entire service";
 Source: Airbnb Website, 2021

Regarding sales and marketing, we predict that Airbnb will increase spending in the near future to gain market share during the Covid recovery, and later capitalize on its organic growth to reduce costs and transition to focus on net income. Thereafter, from 2022 to 2024, there will be a decrease as a percentage of revenues, since we believe that in those years Airbnb has already really reach a considerable amount of possible users and do not make sense to continuously invest a considerable amount of money in that caption but rather continue to invest in a small proportion, in moving from 30% to a constant rate of 15%. After 2024 we predict that 15% per annum.

the matter of general and administrative, which consists primarily in costs with personnel-related expenses for management and administrative functions but also where are included costs associated with accounting and finance in order to fulfil the extraordinary regulations of SEC and Listing Rules of NASDAQ that Airbnb is obliged after its IPO. Therefore, we predict that these costs will remain constant in the year of 2021 as a percentage of revenues and in the medium-long-term, starting from 2023 we believe that Airbnb will make efforts to stabilize the amount

... gain market share during Covid recovery...

... fulfil the regulations of SEC and Listings Rules of NASDAQ...

spent in this caption and allocate part of them to invest in a most needed caption to its business growth as per example the investment in intangible assets, and therefore reduce by half of the amount spent in 2022 representing 8% as a percentage of revenues over the years.

Finally, the restructuring charges represent the cost associated with the global workforce reduction of employees that occurred in May 2020 due to Covid-19 pandemic. Therefore, we predict that this caption was extraordinary only due to Covid-19 and will disappear over the coming years.

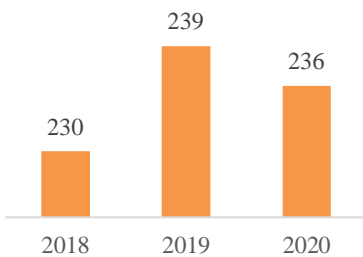
- Core Invested Capital captions

Intangible assets are becoming the engine for boosting competitive advantage and customer value creation for developed enterprises year after year. According to a McKinsey & Company study (2021)²⁷ the investment in intangible assets over the 25 years has increased by 25%, especially in companies like Airbnb that do not own tangible assets, where they play an even more important role in the company's growth and future long-term returns. As a result, we anticipate Airbnb investing in new software technologies, listing relationships and customer contacts in order to further differentiate itself from its competitors. Thus, in our opinion, it makes sense to forecast the intangible assets as a percentage of revenues. In 2019 and 2020 this caption represents 2% of revenues and we predict it to be increased by 1% per each following year, due to the importance of intangible assets in the Airbnb model mentioned above, and reach in 2030 a value of 12,25% as a percentage of revenues.

...investing in new software's technologies, listing relationships ...

Funds payable/receivable and amounts held/payable to customers, particularly, in the Airbnb business model, represent the same amount in the assets and liabilities side respectively, since these values represent the cash received/paid from bookings to guests/hosts prior to check-in completions. Moreover, since we believe that there is no seasonality in this caption, we do not see any reason to increase/decrease it. Therefore, we predict the Average Collection Period and Average Payable Period in the following years as an average of the last three years, which results in 235 days. We made the same assumptions regarding the caption accounts payable.

Historical average payable and receivable period



Graph 22;
Source: Airbnb SEC Filings

Regarding PP&E, which represents mainly computer equipment, office furniture, buildings & lands and leasehold improvements, the forecast was predicted based on percentage of revenues. As mentioned above, Airbnb is a “technological” company that do not own as many fixed assets as may be expected of a normal company. Therefore, there is no need to increase drastically its fixed assets to increase its revenues. For that reason, a conservative approach was adopted, and we predict a small decrease of 0,1% per year as a percentage of revenues until 2030, where the percentage of revenues will represent 7%.

In terms of Goodwill, the forecast was based on a percentage of non-current asset & marketable securities Airbnb owns. Moreover, Airbnb is expected to keep making (non-tangible) investments and acquisitions to keep its expansion of customer base in the coming years. For that reason, the Goodwill is expected to grow at plus 0,5% each year as a percentage of non-current & marketable securities, moving from 60% in 2021 to 65% in 2030.

With respect to accrued expenses & other current liabilities, the forecast was made as a percentage of revenues. Is important to explain that this caption in 2020 increased drastically but this was due to the restructuring charges that Covid-19 provoked (e.g. the coupons issued to guests related to cancellations). Since 2020 was an atypical year with non-current expenses, the prediction of forecast was based only in 2018 and 2019. In both years this caption remained stable as a percentage of revenues: 25%. Therefore, we predict that there is no reason to change it over the following years.

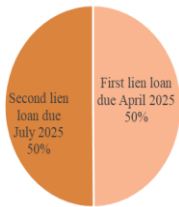
Regarding Unearned fees, which represent the service fees collected from customers prior to check-in, these suffered a great decrease resulting from fewer bookings on the Airbnb platform due to Covid-19. In terms of forecasting, this was based as a percentage of revenues since these are inherently correlated with it. Once again due to the atypical year of 2020 the prediction was only based with the values of 2018 and 2019 which remained stable following the amount of revenues in both years. So, there is no reason to decrease or increase. The prediction is to remain stable in the coming years, remaining as 13% of revenues.

***... restructuring charges that
COVID-19 provoked ...***

***... fewer bookings due to
COVID-19 ...***

▪ Non-core invested capital captions

Total Airbnb Long-term Debt



Graph 23;
Source: Airbnb Annual Report (2020)

With respect to marketable securities, over the short-medium period, Airbnb can have cash constraints to serve debt obligations. Since Airbnb borrowed two loans in 2020 (First lien loan due April 2025 and Second lien loan due July 2025) (**Graph 23**) we predict that they will require these marketable securities to service this debt and sell marketable securities, reducing available marketable securities from 2022 to 10% in 2024. In the long-term (starting in 2025) Airbnb will be able to re-invest in marketable securities, growing from 2025 to 2030, reaching 40% of growth YoY in the final year of the forecast.

... does not need intensive investment in fixed assets to expand ...

The operating lease right-of-use assets represents mainly the leases of offices and data centres that Airbnb has. Therefore, it is predicted that Airbnb will expand its business by increasing its revenues. In our opinion the company, even though is a “technological” company, does not need intensive investment in fixed assets to expand. It also needs to expand it on a smaller scale. Thus, from 2021 to 2022 a small increase of 1% is predicted since the company is recovering from the pandemic and will adopt a more conservative approach in leasing new offices and data centers, but in a medium-long-term starting in 2023 it will feel more comfortable to invest more and reach 3% of growth which will remain constant until 2030. It is important to note that operating lease liabilities move in the same direction proportionally of operating lease right-of-use assets since there is the financial obligation (payments) that Airbnb has to make from the leases.

Discount Rate

... future capital structure fully equity-financed ...

To perform DCF Valuation, we first must compute the Weighted Average Cost of Capital (WACC), so we can discount future Cash Flows to present value.

Cost of equity (Re)	
Rf	1,6%
Erm	0,4%
MRP	6,0%
Er(ABNB)	0,6%
Levered (rolling) Beta	1,22
Rd	9,6%
Re	8,9%

Table 3: Airbnb Cost of Equity

First, we thought about current capital structure and what would be Airbnb’s target capital structure for the coming years. Historically, Airbnb has been 100% equity financed. This fact changed in 2020, as Airbnb had to enter loan agreements to go through the tough times of Covid. But we expect that this debt will be rapidly repaid in the coming years with cash generation through revenue growth. So, until Airbnb reaches maturity phase, we expect it to continue to be financed only through equity, to maintain a safer position and preserve flexibility (both operational and financial). Afterwards, it can optimise its capital structure differently.

So, we only have to compute cost of equity. We used the CAPM model, which requires the risk-free rate, the market risk premium and Airbnb’s beta. For risk-free

rate, we used the 10-year US Treasury Bond. For computing beta, we ran a regression against the SP500, but ran against the constraint of lack of data, as Airbnb was only publicly traded approximately one year ago. So, considering the high volatility of this stock and comparing it to peers (Expedia, beta equal to 1.61 and Booking, beta equal to 1.22, from Yahoo Finance), we added a 0.2 premium to the beta we computed on the regression and to reflect Airbnb's increased systematic risk in our view, leaving us with a beta equal to 1.22. For market risk premium, we used the generally accepted 6%, also based in Damodaran research. So, taking all this into consideration, we ended up with a WACC of 8.94%, our cost of equity, as explained above.

Discounted Cash Flow methods (DCF)

We computed a DCF analysis to Airbnb using two methods: Gordon Growth Model Terminal Value and EV/Revenue Multiple Terminal Value.

To discount future Cash Flows to present value, we used our computed WACC. We expect the company not to distribute dividends on the forecast period (although we expect sufficient cash to emit the first dividend not long after 2030), so we did not have to include dividends on capital gains.

Assuming a perpetual growth rate of 3.5%, based on World GDP growth (International Monetary Found, 2021) and current high U.S. inflation rate, and through GGM TV, we discounted the sum from Cash Flow from operations and from investments and ended up with a Common Equity Value of \$60.012B, after summing net debt. Considering outstanding shares, this would mean a share price of \$95.50, a **sell** recommendation

Regarding our EV/Revenue Multiple TV, we computed our multiple through an average value of 5.751 past M&A transactions in the Hotel and Cruises industry, which translated in a 6.06x multiple. With this multiple, our TV is a little higher, due to strong revenues in 2030. This meant a Common Equity Value of \$77.396B, or a share price of \$123.16, so still a **sell** recommendation as for current share price.

Our final target share price is an average of these two target prices, **\$109.33**.

Sensitivity Analysis

We performed two sensitivity analysis to key parameters (regarding the WACC, the Beta and the Market Risk Premium, and regarding the DCF, the perpetual

		Beta				
		1.12	1.17	1.22	1.27	1.32
MRP	5.00%	7.22%	7.47%	7.72%	7.97%	8.22%
	5.50%	7.78%	8.06%	8.33%	8.61%	8.88%
	6.00%	8.34%	8.64%	8.94%	9.24%	9.54%
	6.50%	8.91%	9.23%	9.56%	9.88%	10.21%
	7.00%	9.47%	9.82%	10.17%	10.52%	10.87%

Table 4: Sensitivity Analysis to WACC

growth rate) as to better know how changes in these parameters affect our DCF and, so, our recommendation regarding ABNB.

First, we did a sensitivity analysis to the WACC and, with that output and with changes of 0.5% to the growth rate, we did a sensitivity analysis to the DCF (with Gordon Growth Model Terminal Value)

A change of +/- 0.1 to the Beta combined with a change of +/- 1% to the MRP result in an interval for WACC with a minimum of 7.22% and a maximum of 10.87%.

With these values and combining the perpetual growth rate to the sensitivity analysis, we got the following table for target share prices, only representing a **hold** recommendation for the highest growth parameter (4.5%) and the lowest WACC (7.22%) considered, with **sell** recommendation for the rest of the parameters.

		WACC				
		7.22%	8.06%	8.94%	9.88%	10.87%
g	2.50%	120.01	101.42	87.04	75.66	66.49
	3%	130.36	108.31	91.78	79.00	68.89
	3.50%	143.50	116.73	97.40	82.87	71.61
	4%	160.71	127.21	104.15	87.39	74.73
	4.50%	184.24	140.64	112.42	92.75	78.35

Table 5: Sensitivity Analysis to target stock price

Final Recommendation

Concluding our valuation, we expect a target share price of **109.33\$**, which corresponds, at current share price, to a shareholder’s return of **-39.4%** as for our DCF models.

This target share price and return would then translate to a **sell** recommendation. It is important to highlight that the future of the company looks promising in the long-term, but we don’t consider current stock price and market conditions to be good entry-points for investors (although, for instances, the stock would be a clear buy as for IPO valuation). For this reason, we suggest investors to keep an open eye for a possible correction and, possibly, new entry-points if they want to add a T&T stock to their portfolio.

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Appendix

Financial Statements

Balance Sheet Forecast

BALANCE SHEET FORECAST	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands
CORE BUSINESS													
Assets													
Operating cash	36,520	48,052	33,782	48,191	67,074	77,246	93,863	108,062	124,113	142,240	162,692	185,748	204,061
% of total revenue	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Growth (%)	32%	-30%		43%	39%	15%	22%	15%	15%	14%	14%	14%	10%
Intangible assets	28,756	102,912	75,886	156,446	294,819	405,258	586,299	783,053	1,023,477	1,315,196	1,666,996	2,088,983	2,498,998
% of total revenue	1%	2%	2%	3.25%	4.25%	5.25%	6.25%	7.25%	8.25%	9.25%	10.25%	11.25%	12.25%
Growth (%)	258%	-26%	106%	82%	42%	45%	31%	29%	27%	25%	20%	25%	20%
Funds receivable and amounts held on behalf of custom	2,305,011	3,145,457	2,181,329	3,102,667	4,312,031	4,965,956	6,034,223	6,947,050	7,978,934	9,144,264	10,459,091	11,941,311	13,118,611
Average Collection Period (days)	230	239	236	225	235	225	235	235	235	235	235	235	235
Prepays and other current assets	240,213	341,598	309,954	446,982	628,826	731,913	898,747	1,045,511	1,213,218	1,404,633	1,622,870	1,871,432	2,076,343
% of total revenue	7%	7%	9%	9.28%	9.38%	9.48%	9.58%	9.68%	9.78%	9.88%	9.98%	10.08%	10.18%
Growth (%)	42%	-9%	44%	41%	16%	23%	16%	16%	16%	16%	15%	11%	11%
PP&E	309,408	301,273	270,194	380,624	523,053	594,650	713,184	810,265	918,207	1,038,088	1,171,082	1,318,468	1,428,051
% of total revenue	8%	6%	8%	7.90%	7.80%	7.70%	7.60%	7.50%	7.40%	7.30%	7.20%	7.10%	7.00%
Growth (%)	8%	-3%	-10%	41%	37%	14%	20%	14%	13%	13%	13%	13%	8%
Goodwill	289,861	652,088	655,801	628,235	634,549	667,593	741,544	922,511	1,156,213	1,605,132	2,243,357	3,136,826	4,388,101
% of Non-Current Assets & Marketable Securities	22%	48%	60%	60.13%	60.63%	61.13%	61.63%	62.13%	62.63%	63.13%	63.63%	64.13%	64.63%
Growth (%)	125%	1%	-4%	1%	5%	11%	24%	25%	39%	40%	40%	40%	40%
Total Operating Assets	3,209,769	4,591,380	3,526,946	4,763,145	6,450,352	7,442,616	9,067,859	10,616,451	12,414,161	14,649,552	17,326,088	20,542,768	23,714,165
Liabilities													
Accounts Payable	70,630	151,417	79,898	110,429	153,697	160,914	195,529	225,108	258,545	311,121	288,074	328,898	361,325
Average Payable Period (days)	30	46	33	38	38	38	38	38	38	38	38	38	38
Accrued expenses and other current liabilities	864,130	1,224,080	2,414,071	1,183,962	1,647,864	1,897,765	2,306,008	2,654,849	3,049,189	3,494,526	3,996,993	4,563,431	5,013,342
% of total revenue	24%	25%	71%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Growth (%)	42%	97%	-51%	39%	15%	22%	15%	15%	15%	14%	14%	14%	10%
Funds Payable and amounts payable to customer	2,305,011	3,145,457	2,181,329	3,102,667	4,312,031	4,965,956	6,034,223	6,947,050	7,978,934	9,144,264	10,459,091	11,941,311	13,118,611
Average Payable Period (days)	230	239	239	235	235	235	235	235	235	235	235	235	235
% of total revenues													
Unearned Fees	496,239	674,788	407,895	637,818	879,834	989,436	1,225,265	1,404,088	1,607,514	1,849,078	2,112,019	2,410,604	2,650,021
% of total revenue	14%	14%	12%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Growth (%)	36%	-40%	56%	38%	12%	24%	15%	14%	15%	14%	14%	14%	10%
Total Operating Liabilities	3,736,010	5,195,742	5,083,193	5,034,876	6,993,426	8,014,071	9,761,025	11,231,095	12,894,181	14,798,988	16,856,177	19,244,244	21,143,299
Total Operating Invested Capital, Net	-526,241	-604,362	-1,556,247	-271,731	-543,074	-571,455	-693,166	-614,644	-480,020	-149,436	469,911	1,298,524	2,570,866
NON CORE BUSINESS													
Assets													
Marketable Securities	1,188,431	1,060,726	910,700	865,165	865,165	899,772	989,749	1,237,186	1,546,482	2,165,075	3,031,106	4,243,548	5,940,967
Growth (%)	-11%	-14%		-5%	0%	4%	10%	25%	25%	40%	40%	40%	40%
Operating lease right-of-use assets	0	385,594	384,068	387,909	391,788	395,706	399,663	411,653	424,002	436,722	449,824	463,319	477,218
Growth (%)		1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Other assets, non current	110,532	306,809	189,164	179,706	181,503	192,393	213,556	247,725	299,748	377,682	494,763	648,140	849,063
Growth (%)	178%	-38%	-5%	1%	6%	11%	16%	21%	26%	31%	31%	31%	31%
Total Non-Operating Assets	1,298,963	1,753,129	1,483,932	1,432,779	1,438,456	1,487,870	1,602,968	1,896,564	2,270,232	2,979,480	3,975,693	5,355,006	7,267,248
Liabilities													
Operating lease liabilities, current	0	38,022	56,586	73,562	95,630	124,319	161,615	226,261	316,766	443,472	620,861	869,206	1,216,888
Growth (%)		49%	30%	30%	30%	30%	30%	40%	40%	40%	40%	40%	40%
Operating lease liabilities, non current	0	381,374	430,905	486,869	550,101	621,545	702,269	800,586	912,668	1,040,442	1,186,104	1,352,158	1,541,461
Growth (%)		13%	13%	13%	13%	14%	14%	14%	14%	14%	14%	14%	14%
Other liabilities, non current	162,885	271,164	203,470	152,675	114,561	85,962	64,502	48,400	36,317	27,251	20,448	15,343	11,513
Growth (%)		-25%	-25%	-25%	-25%	-25%	-25%	-25%	-25%	-25%	-25%	-25%	-25%
Total Non-Operating Liabilities	162,885	690,560	690,961	713,106	760,292	831,827	928,386	1,075,247	1,265,751	1,511,165	1,827,413	2,236,707	2,769,862
Total Non-Operating Invested Capital, Net	1,136,078	1,062,569	792,971	719,674	678,163	656,044	674,582	821,316	1,004,481	1,468,314	2,148,280	3,118,299	4,497,387
Financial													
Financial Assets													
Excess cash	2,104,357	1,965,495	5,446,775	3,246,851	4,094,386	5,462,700	7,463,917	9,273,380	12,125,801	14,851,780	18,091,783	21,473,101	24,503,744
Restricted Cash	0	115	33,846	0	0	0	0	0	0	0	0	0	0
Total Financing Assets	2,104,357	1,965,610	5,480,621	3,246,851	4,094,386	5,462,700	7,463,917	9,273,380	12,125,801	14,851,780	18,091,783	21,473,101	24,503,744
Financial Liabilities													
Long-term debt, net of current portion	0	0	1,815,562	1,634,006	1,452,450	1,180,115	726,225	0	0	0	0	0	0
Reedemable Convertible Preferred stock	3,231,502	3,231,502	0	0	0	0	0	0	0	0	0	0	0
Total Financing Liabilities	3,231,502	3,231,502	1,815,562	1,634,006	1,452,450	1,180,115	726,225	0	0	0	0	0	0
Net Financing	-1,127,145	-1,265,892	3,665,059	1,612,845	2,641,936	4,282,585	6,737,692	9,273,380	12,125,801	14,851,780	18,091,783	21,473,101	24,503,744
Equity													
Shareholder's Equity	-517,308	-807,685	2,901,783	2,060,788	2,777,025	4,367,174	6,719,108	9,480,053	12,650,262	16,170,659	20,709,973	25,889,924	31,571,996
Dividends	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Equity	-517,308	-807,685	2,901,783	2,060,788	2,777,025	4,367,174	6,719,108	9,480,053	12,650,262	16,170,659	20,709,973	25,889,924	31,571,996

Income Statement Forecast

INCOME STATEMENT FORECAST	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands	in \$ thousands
CORE BUSINESS													
Revenue	3,651,985	4,805,239	3,378,199	4,819,144	6,707,387	7,724,572	9,386,266	10,806,174	12,411,275	14,223,952	16,269,173	18,574,774	20,406,071
Growth %	43%	32%	-30%	43%	39%	15%	22%	15%	15%	15%	14%	14%	10%
Cost of revenue	-864,032	-1,196,313	-876,042	-1,060,212	-1,475,625	-1,544,914	-1,877,253	-2,161,235	-2,482,255	-2,987,030	-2,765,759	-3,157,712	-3,469,032
Gross Margin	76%	75%	74%	78%	78%	80%	80%	80%	80%	79%	83%	83%	83%
Revenue %	24%	25%	26%	22%	22%	20%	20%	20%	20%	21%	17%	17%	17%
Growth %	38%	-27%		21%	39%	5%	22%	15%	15%	20%	-7%	14%	10%
Operating and administrative expenses:													
Operations and support	-609,202	-815,074	-877,901	-674,680	-939,034	-1,081,440	-1,314,077	-1,512,864	-1,737,578	-1,991,353	-2,277,684	-2,600,468	-2,856,850
Revenue %	17%	17%	26%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Growth %		34%	8%	-23%	39%	15%	22%	15%	15%	14%	14%	14%	10%
Product Development	-579,193	-976,695	-2,752,872	-1,397,552	-670,739	-772,457	-938,627	-1,080,617	-1,241,127	-1,422,395	-1,626,917	-1,857,477	-2,040,607
Revenue %	16%	20%	81%	29%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Growth %		69%	182%	-49%	-52%	15%	22%	15%	15%	15%	14%	14%	10%
Sales and Marketing	-1,101,327	-1,621,519	-1,175,325	-1,590,318	-2,012,216	-1,544,914	-1,407,940	-1,620,926	-1,861,691	-2,133,593	-2,440,376	-2,786,216	-3,060,911
Revenue %	30%	34%	35%	33%	30%	20%	15%	15%	15%	15%	15%	15%	15%
Growth %		47%	-28%	35%	27%	-23%	-9%	15%	15%	15%	14%	14%	10%
General and administrative	-479,487	-697,181	-1,134,851	-983,614	-536,591	-617,966	-750,901	-864,494	-992,902	-1,137,916	-1,301,534	-1,485,982	-1,632,486
Revenue %	13%	15%	34%	20%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Growth %		45%	63%	-13%	-45%	15%	22%	15%	15%	15%	14%	14%	10%
Restructuring charges	0	0	-151,355	0	0	0	0	0	0	0	0	0	0
Revenue %	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total Operating expenses	-2,769,209	-4,110,469	-6,092,304	-4,646,163	-4,158,580	-4,016,777	-4,411,545	-5,078,902	-5,833,299	-6,685,258	-7,646,511	-8,730,144	-9,590,853
Growth %		48%	48%	-24%	-10%	-3%	10%	15%	15%	15%	14%	14%	10%
Operating income before tax (EBIT)	18,744	-501,543	-3,590,147	-887,231	1,073,182	2,162,880	3,097,468	3,566,037	4,095,721	4,551,665	5,856,902	6,686,919	7,346,186
Growth %		-2776%	616%	-75%	-221%	102%	43%	15%	15%	11%	29%	14%	10%
Taxes on operating income (loss)	-57,952	-243,770	-132,054	186,318	-225,368	-454,205	-650,468	-748,868	-860,101	-955,850	-1,229,949	-1,404,253	-1,542,699
Effective tax rate	309%	-49%	-4%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
Operating loss after tax (NOPLAT)	-39,208	-745,313	-3,722,201	-700,912	847,814	1,708,675	2,447,000	2,817,170	3,235,619	3,595,815	4,626,953	5,282,666	5,803,487
NON CORE BUSINESS													
Other income, net	-12,361	13,906	-947,220	10,449	10,467	10,922	12,033	14,849	18,462	25,428	35,259	48,917	67,900
% of other long-term assets-non-operating	-11%	2%	-165%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Taxes (non-core)	2,596	-2,920	198,916	-2,194	-2,198	-2,294	-2,527	-3,118	-3,877	-5,340	-7,404	-10,273	-14,259
Total Other Comprehensive Income	-9756	3502	7049	0	0	0	0	0	0	0	0	0	0
Non-operating income	-19,521	14,488	-741,255	8,254	8,269	8,628	9,506	11,731	14,585	20,088	27,854	38,644	53,641
Interest expense	40,650	75,934	-144,571	-187,769	-177,019	-160,955	-132,369	-86,020	-101,260	-120,893	-146,193	-178,937	-221,589
% Debt	-	-	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Tax Shield	-8,537	-15,946	30,360	39,431	37,174	33,801	27,797	18,064	21,265	25,388	30,701	37,577	46,534
Net Financial Profit after tax	32,114	59,988	-114,211	-148,337	-139,845	-127,155	-104,571	-67,956	-79,995	-95,506	-115,493	-141,360	-175,055
Comprehensive Income	-26,616	-670,837	-4,577,667	-840,995	716,237	1,590,149	2,351,934	2,760,945	3,170,209	3,520,397	4,539,315	5,179,950	5,682,073

Cash Flow Forecast

All numbers in \$ thousands	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
CORE BUSINESS													
NOPLAT	-39,208	-745,313	-3,722,201	-700,912	847,814	1,708,675	2,447,000	2,817,170	3,235,619	3,595,815	4,626,953	5,282,666	5,803,487
Depreciation and Amortization	82,401	114,162	125,876	120,585	121,797	128,139	142,334	177,069	221,926	308,093	430,595	602,090	842,262
Gross Free Cash Flow	43,193	-631,151	-3,596,325	-580,327	969,611	1,836,815	2,589,333	2,994,238	3,457,546	3,903,908	5,057,548	5,884,756	6,645,749
IC - FIXED ASSETS	628,025	1,056,273	1,001,881	1,165,305	1,442,421	1,667,501	2,041,027	2,515,828	3,097,897	3,958,415	5,081,435	6,544,278	8,315,150
Gross Capex		-428,248	54,392	-163,424	-277,116	-225,080	-373,526	-474,801	-582,069	-860,519	-1,123,019	-1,462,843	-1,770,872
Net Capex		-542,410	-71,484	-284,009	-398,913	-353,219	-515,860	-651,870	-803,995	-1,168,611	-1,553,614	-2,064,933	-2,613,134
IC - NWC	-1,154,266	-1,660,635	-2,558,128	-1,437,036	-1,985,495	-2,238,956	-2,734,193	-3,130,472	-3,577,917	-4,107,851	-4,611,524	-5,245,754	-5,744,284
Net Working Capital		506,368	897,493	-1,121,092	548,459	253,461	495,237	396,279	447,445	529,934	503,673	634,230	498,530
Investment FCF		-36,042	826,009	-1,405,101	149,547	-99,758	-20,623	-255,591	-356,550	-638,677	-1,049,942	-1,430,703	-2,114,604
Core FCF		-667,192	-2,770,316	-1,985,428	1,119,157	1,737,056	2,568,711	2,738,648	3,100,995	3,265,231	4,007,606	4,454,052	4,531,145
NON-CORE BUSINESS													
Operational CF	-19,521	14,488	-741,255	8,254	8,269	8,628	9,506	11,731	14,585	20,088	27,854	38,644	53,641
IC	1,136,078	1,062,569	792,971	719,674	678,163	656,044	674,582	821,316	1,004,481	1,468,314	2,148,280	3,118,299	4,497,387
Investment FCF		73,509	269,598	73,297	41,510	22,120	-18,538	-146,735	-183,164	-463,834	-679,965	-970,019	-1,379,088
Non-Core FCF	-19,521	87,997	-471,657	81,552	49,779	30,748	-9,032	-135,004	-168,579	-443,746	-652,111	-931,375	-1,325,447
OPERATIONAL FCF	-19,521	-579,195	-3,241,973	-1,903,877	1,168,936	1,767,804	2,559,679	2,603,644	2,932,416	2,821,485	3,355,495	3,522,677	3,205,698
FINANCING													
Financial Result	32,114	59,988	-114,211	-148,337	-139,845	-127,155	-104,571	-67,956	-79,995	-95,506	-115,493	-141,360	-175,055
NET FINANCIAL ASSETS	-1,127,145	-1,265,892	3,665,059	1,612,845	2,641,936	4,282,585	6,737,692	9,273,380	12,125,801	14,851,780	18,091,783	21,473,101	24,503,744
Investment in Net Financial Assets		138,748	-4,930,951	2,052,214	-1,029,091	-1,640,649	-2,455,107	-2,535,688	-2,852,421	-2,725,979	-3,240,003	-3,381,317	-3,030,643
Transactions with shareholders		380,460	8,287,135	0	0	0	0	0	0	0	0	0	0
FINANCING FCF	32,114	579,195	3,241,973	1,903,877	-1,168,936	-1,767,804	-2,559,679	-2,603,644	-2,932,416	-2,821,485	-3,355,495	-3,522,677	-3,205,698

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Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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