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Financial Planning for a Short-Term Accommodation Rental Company

Ilker Aleks Avci

Abstract

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Author(s) Ilker Aleks Avci	
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This thesis project was a financial feasibility study that focused on an investigation of revenue and profit estimations for the start-up phase of a projected case company. The case company provides short-term vacation rental services using a community-based accommodation sharing platform, namely Airbnb, for its operations and is based in Helsinki, Finland. The main objective of the thesis is to provide income estimations for this type of a business model and to construct a cashflow model in MS Excel on the basis of the research results.

The theory part of the thesis consists of two chapters that prepare a basis for project development and data collection methods. It begins by focusing on the price determining factors for lodging units and explains customer attractiveness from the revenue and profit maximization point of view. Next, it covers managerial accounting techniques and models exploited in hotel management as well as the Airbnb business model in particular.

The working methods for project implementation were shaped upon information gathered from a literature review that is presented in the empirical part. Secondary data comprised the majority of the data collected that is relevant to the specified business case. The financial planning model was based on the research outcomes and theoretical knowledge base covered in the theory part. Figures placed in the input tab of an Excel tool were built upon assumptions based on the statistical data sets collected. In addition to the financial model created, financial projections from the model provide a relevant framework to be utilized for planning the financial operations of the case company.

Income estimations that are produced in the Excel based financial projection model are presented and the outcomes of financial feasibility study are discussed in the final chapter. Case company is strongly recommended to pay a closer attention on price management as the role of pricing in the industry could have a fundamental impact on revenue growth and profit maximization. A thorough market research that considers both demand and competition analysis in the given area is suggested to be studied for further development. Lastly, the evaluation of the study process and the author's own reflection conclude the thesis project.

Keywords
Financial projection, revenue estimation, Airbnb, vacation rental, cost accounting, pricing

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1   Introduction

This chapter consists of the background information about this thesis, project objective together with four project tasks, demarcation, the international aspect of the thesis, benefits of conducting this study, key concepts that are central to the thesis topic and the thesis itself and the brief information about the case company. The main objective of this thesis is to study and analyse what financial opportunities that the sharing economies of today's online world have to offer and how they can be leveraged optimally as a full-time business opportunity. The study concentrates on short-term rental providing business, Airbnb in particular, from the viewpoint of financial planning in the start-up phase of the upcoming company of the author.

1.1   Background

As technology develops more rapidly, we must take into consideration the power of the internet in today's businesses. In the investments, especially, whether it is investments in stocks/companies, oil & raw material or land & real estate without using and leveraging the power of IT technologies, it is impossible for businesses to sustain and survive.

As the world becomes more globalised and mobilisation of people proliferates every day, the need for accommodation services both for the long term and short term increases. Thus, this brings us to a market niche where the supply of accommodation services does not meet the demand.

The necessity of conducting this study arises from the fact that the current market trend both globally as well as locally shows us an upward demand raise for hosting/housing providing services. According to foreigner.fi, "in 2018, accommodation establishments in Finland recorded over 22 million overnight stays, of which domestic tourists accounted for around 15.4 million and foreign tourists for good 6.8 million. The foreign and domestic demand for accommodation services grew both by 1.5 percent from the previous year. The total demand for accommodation services grew equally much, or in total by 1.5 percent in 2018" (foreigner.fi, 2019). Not only that but the innovative online accommodation providing services such as Airbnb, booking.com, trivago etc has disrupted the way that the hospitality market works thus has brought together a unique opportunity both to the individual people to make an extra income by renting their spare room or entire flat as well as investors and entrepreneurs to run a full-time business by buying several properties or just by renting them.

As a business student and a professional, this thesis prepares a fundamental basis and a starting point for author's future hosting business by leveraging the power of sharing economies, notably Airbnb. This study carries out an important aspect of specialization field studies of the author since the topic of the study is revenue estimations and profit maximisation on a start-up company in the short term. Thus, it contains several numbers of financial calculations, budget planning, forecasting, cost and managerial accounting, etc. Hence, conducting this thesis project enables the author to go deeper in his specialization field, improve his research-analytical thinking skills, decision making, time management skills, and many others as well as establishes a foundation for some financial operations in the start-up phase of the case company. Additionally, the report provides an example of roadmap and a guidance for those who want to engage in hosting-accommodation business or for those who are already in the industry and gives a valuable insight for short term rental markets in general.

1.2   Project Objective

This bachelor's thesis study aims to create a budgeted financial planning tool in the start-up phase of a short-term rental services providing company. The study focuses on online marketplace Airbnb that connects hosts and guests throughout the world, examines the business opportunities that sharing economies bring together and the risks involved. The research investigates the scale and the scope of initial investment needs in a start-up company in the short-run and targets to prepare a basis for financial operations from the viewpoint of revenue estimation and profit maximisation.

The outcome of the thesis will be an estimated income statement tool and cost management roadmap for the start-up company of the author that he plans to start after graduation. The findings will be useful not only for his own business but it may also be benefited by a wide range of professionals and academic community in the field of tourism and hospitality as well as it may benefit investors since the thesis focuses to explain the events from a financial perspective.

The **project objective** can be worded as: **What kind of revenue estimations can be made for an Airbnb business in the start-up phase for the capital region in Finland?** The project objective (PO) then is divided into project tasks (PT) as follows below:

PT 1. Finding which **locations** in the capital region in Finland are optimal from the viewpoint of customer attraction and what is the average **rent price** in the areas

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PT 2. Investigating **estimated expenditure (investment)** required per a 4-person rental apartment including rent, furnishing, transportation cost of furnishings, cleaning services, etc.

PT 3. Studying the **optimal pricing** from the viewpoint of **competitors** and the **revenue generation**

PT 4. Analysing **revenue and profitability estimates** made based on the results of PTs 1-3

1.3 Process Description

Table 1 below presents the theoretical framework, project management methods and results chapters for each project task.

Table 1. Overlay matrix

Project Task	Theoretical Framework*	Project Management Methods	Outcome
PT 1. Find out what locations in the capital region in Finland are optimal from the viewpoint of customer attraction and what is the average rent price in the areas	Real estate Location attractiveness for short term rentals and hotel stays, Rents and rental pricing	Secondary qualitative and quantitative data collection	Optimal locations in the capital region for short term stays Average rent for these locations
PT 2. Investigate **estimated expenditure (investment)** required per a 4-person rental apartment including rent, furnishing, transportation cost of furnishings, cleaning services, etc.?	Literature on Management accounting, Cost accounting, Budgeting Expenditures	MS Excel, Desktop study on expenditure estimation	-Expenditure estimates per 4 person apartment -Cost structure built in excel tool
PT 3. Study **optimal pricing** from the viewpoint of **competitors** and the **revenue generation**	Previous studies conducted for pricing and pricing methods for tourism and hospitality field	Primary and secondary data collection, MS Excel, Desktop study on calculating pricing options	-Pricing options for 1-4 person rentals -Revenue assumptions

	and for Airbnb operations		created in excel tool
PT 4. Analyse **revenue and profitability estimations** made based on the results of PTs 1-3	All of the above	MS Excel, Desktop study on calculating revenue, profitability and ROI estimates	Estimated income and cashflow statement tool

1.4 Demarcation

As this thesis aims to find out financial opportunities and risks to start housing and rental services business, it mainly focuses on providing short-term rental and accommodation services for Finland's capital region. Other regions in Finland and the long term rental services are not included in this study. The thesis researches explicitly the business opportunities of online providers of sharing economy based platforms; it excludes all the other traditional short-term hosting providers.

Since the focus of this thesis to generate a revenue estimation plan for the short term accommodation business by utilising the online web and mobile platforms, it specifically studies Airbnb as a business model in order to give more precise information, it excludes all other online platforms such as homeaway, vrbo, booking.com, trivago, expedia, hotels.com, kayak.com etc.

The scope of the study is delimited with renting the properties for the operations of this type of business; it does not include buying properties that is a study of long term financial planning and profit estimations in the very long term as well as it requires a totally different and a lot more complex financial calculations. Hence, our thesis project is demarcated by short-term financial estimations for accommodation providing business, so it makes the project feasible, so it gives a clear picture and serves as valuable insight from the viewpoint of managerial accounting.

1.5 International Aspect

Even though the topic of this thesis covers the research on financial projection on the Finnish housing and hosting industry, the platform that the company uses is Airbnb, which

is operating internationally in over 190 countries, headquartered in California, USA. Not only that but also the big part of the customer base consists of travelers, business-academical visitors, international students, tourists etc. from other countries around the globe. Thus, it greatly fulfills the degree programme specific requirement of an international aspect.

1.6   Benefits

The main benefiting party from conducting this study is the future start-up company of the author himself. As the thesis result plays an important role in the decision-making process of the company, it serves as a guide and shows a direction for the business and financial operations in the starting phase.

Since the topic of this thesis is for an emerging industry, there are not many studies conducted on the field that makes this thesis work somehow unique. For that reason, in addition to the academic community in the field, this thesis project may be beneficial for all the players in the tourism-hospitality industry, individual entrepreneurs who want to start a business in the field or already running a business in the field as well as investors.

For the author himself, it helps him develop his academic skills as well as business skills, add to his learning process and expand his knowledge base. Apart from that, the author will also benefit from it as financial gainings, and it will also be useful for further investments in the middle and long run if the outcome of this thesis proves working successfully.

1.7   Key Concepts

Sharing economy
Is "an economic model defined as a peer-to-peer (P2P) based activity of acquiring, providing, or sharing access to goods and services that is often facilitated by a community-based online platform" (Chappelow, 2020).

Airbnb rental arbitrage
Arbitrage is defined as buying or investing on a product and then selling it with a profit in a different market. "Rental arbitrage is the act of renting a property long-term and then re-renting it on a short-term basis on platforms like Airbnb and HomeAway" (Airdna 2020).

Occupancy

As perishable products, vacation rental units that are not sold last night could not be sold today, meaning that it is not available for booking anymore. Since unsold nights turn into missed sales opportunity, **occupancy** is an indicator that hosts and property managers consider principally in terms of revenue generation. (Airdna 2018.)

Cost-Volume Profit Analysis

Cost-volume-profit analysis is a systematic method used with the purpose of examining the correlation of cost, volume and price and its effect on the behaviour of profit (Ramagopal 2008, 168).

Revenue Management

Revenue management refers to the plan of action that forecast micro-consumer behaviour with the goal of optimising price and product availability with regard to revenue and profit maximization (McCormick 2017). As per perishable products, revenue management for lodging properties in the context of hotel operations applies several pricing methods and strategies that aim to sell perishable inventory to the right customers with a right price at the right time with regard to maximizing revenue growth (Siteminder 2020).

1.8 Case Company

The case company, the upcoming company of the author, will be established in Helsinki, Finland. It focuses mainly on operating only in the capital region of Finland in the initial phase of the operations; however, it may decide to expand its operations and business functions in other European countries in the long run since the author has work and living experiences in other European countries.

The planned company will be a service providing company, namely short-term rental provider in the beginning phase, renting properties from landlords, investors, housing companies, etc., furnish and decorate them in a proper way and then list them in the Airbnb platform for customers' use. Taking into account the Finnish legislation, the landlord's consent is required for entire unit listings in order to list the rental property in the Airbnb marketplace. Alternatively, landlords' properties can be managed and listed in the Airbnb platform under a property management company on behalf of landlords. Airbnb property management business is a rising trend now also in Finnish short-term vacation rental market so that properties can be provisioned on the basis of commission percentage from the profit in case this type of model has challenges with feasibility.

2   Literature Review On Short-Term Rental Business

2.1   Sharing Economy (Gigs Economy – Peer to Peer (P2P) Economy)

With technological advancements, especially the development of digital services and online platforms in recent years have enabled a switch towards purchasing/renting/hiring online, changing consumer habits and behaviour tremendously. The first use of the term "**sharing economy**" goes back to 2008, and according to Lessig (2008, in Puschmann 2016, 95), it stands for the "collaborative consumption made by the activities of sharing, exchanging and rental of resources without owning the goods". From the viewpoint of commercial transactions, it indicates the use of an object (a physical good or a service), which is utilized as divided single parts (Rainer 2016, 95). As stated by Hamari (2015, in Puschmann 2016, 95), "these parts are collaboratively consumed in C2C networks coordinated through community-based online services or through intermediaries in B2C models".

Harmaala refers to **sharing economy** (2017, 24) as the networking system and the interaction taking place through community platforms where economic value is created. Utilizing resources more efficiently, shift from ownership to accessing rights, peer to peer activities and production lie at the core of sharing economy (Harmaala 2017, 24). **Sharing economy is "**an economic model defined as a peer-to-peer (P2P) based activity of acquiring, providing, or sharing access to goods and services that is often facilitated by a community-based online platform" (Chappelow, 2020).

Examples for the practices of sharing economy are Airbnb and Couchsurfing which is a peer-to-peer short-term accommodation sharing marketplace, Uber and Lyft mobile applications that connects car drivers with individuals who need taxi rides, Fiver and Upwork networking platforms based on skill exchange are amongst the most popular modern practices of community platforms.

2.2   Airbnb as a Business Model

Airbnb is an innovative peer-to-peer marketplace that enables local hosts(property owners, accommodation providers) to connect with individual travellers through a community based online platform. The company was established in August 2008 in San Francisco in the USA. Initially, it had all started with the idea of company's co-founders Brian Chesky and Joe Gebbia putting their air bed in the living room to host their first

guest during a weekend when hotel rooms were sold out for a design conference (Airbnb 2020). Now in 2020, the company is the market leader in its own segment, one of the largest marketplaces for providing accommodation and experiences services, operating in over 220 countries with 7 million listings in over 100 000 cities worldwide (Airbnb 2020).

The concept of Airbnb is based on the innovative online platform that acts as an intermediate between guests and hosts. It facilitates the ones who want to offer short-term leases to get in contact with the ones who need to rent these spaces, for instance, tourists, business/academic travellers or just those who simply move to a new city (Kosunen & Tuominen 2016, 9). The advancement of technology and the high-speed internet, together with the speed and scale that the peer-to-peer business model has to offer, has made short-term home-stays very popular, and the trend is expected to continue growing further in coming years (Juul in Kosunen, 2016, 9).

Unlike other traditional short-term rental providers such as hotels, hostels, motels, etc., Airbnb does not own or rent or manage any real estate that is listed on its webpage; thus, it makes the company's property costs zero. The platform enables individual homeowners/entrepreneurs to list unused parts of their places or entire properties on the website or in the mobile app. Similarly, guests can enter the trip information such as desired destination, property type, number of guests, number of nights to book, price range, etc. in the search box and make a booking for their stays. Since Airbnb does not deal with maintaining the properties, as Juul (2015, in Kosunen 2016, 9) expresses that its undertakings are limited to facilitating bookings and transactions, processing payments, offering coverage for damages to hosts. In addition to the role of the middleman between local hosts and travellers to exchange lodging services for money, it establishes trust between these two community members. For those services the company provides, it charges guests a 6-12% of the service fee for each reservation made and hosts are charged a fixed 3% of transaction service fee every time when they receive payment (Airbnb 2020).

Another feature of the Airbnb business model is the freedom that it gives to hosts to set their own prices for their spaces listed. However, for the hosts who prefer an automated pricing system, the platform has a predictive pricing algorithm that suggests price on the basis of demand and supply. Host payments for the use of their spaces are released only 24 hours after guest check-in through a secured online payment. (Chua, Chiu & Bool 2019, 31.)

The model ensures trust within guests and hosts via a feedback system based on the evaluation of past users' experiences. Guests rely on reviews of previous guests, response rate of the host, and recommendations by other guests, and similarly, previous reviews provided for guests by hosts establish the basis for users' credibility, thus promote customer satisfaction. (Chua, Chiu & Bool 2019, 31.)

2.3   Scaling Airbnb as a Full-time Business Opportunity (Multi-Unit Hosting)

Airbnb, as disruptive innovation and a pioneer of the sharing era, has brought many opportunities for entrepreneurs to run a full-time business mainly by scaling its business model. Multi-unit hosts are characterized as any host who leases and operates at least two units in a single month, while whole-home units give guests complete and sole access to the entire unit during their stay (CBRE 2017, 5).

Even though the major portion of Airbnb listings is comprised by ones that are operated by hosts with only one listing in the platform so-called single-unit hosts (Guttentag & Smith 2017), hosts with multiple listings in the platform have shown a tremendous increase in the number in recent years due to the fact that the model has significantly decreased the start-up costs and enabled easy access for people in the online networked marketplace to start a full-time business (Cheng 2016).

- **Airbnb Rental Arbitrage**

Scaling up the business operations for increasing financial gainings means that an Airbnb entrepreneur needs to manage more than one unit listed in the platform. The recent trend in the travel industry and growing demand for short-term rental accommodations and functionality of the innovative platforms such as Airbnb led to the creation of alternative ways for entrepreneurs as well as investors to monetize in real estate properties. According to AirDNA -a market analysis provider for Airbnb and Vrbo- rental arbitrage is defined as stated below;

-Rental arbitrage is the act of renting a property long-term and then re-renting it on a short-term basis on platforms like Airbnb and HomeAway. Rental arbitrage is a business model that requires little investment, provides positive cash flow, and poses far less risk — and yes, it is entirely legal. (AirDNA 2020.)

2.4   Lodging Evaluation

This sub-chapter serves readers to understand the general concepts with the hospitality and travel accommodation industry based on the related literature, including previous studies in academic journals, articles, e-books, and other publications. In particular, it aims to explain the main issues for evaluating new lodgings opportunities in the planning phase of a new venture, as well as analyses the factors that determine customers' value creation in terms of revenue generation in the operation phase once the venture is established. Last but not least, the location factor on the lodging industry is explained, and the importance of it for community-based accommodation services are covered.

2.4.1   New Lodging Evaluation

While sharing economy based accommodation services has its distinctive features concerning market analysis; however, it is also related and core issues in the traditional lodging industry. Even though there are a large number of studies conducted in the field of traditional accommodation services, community-based accommodation sharing as a new phenomenon lacks the source of information necessary in the literature. For these reasons, we will refer to the concepts and theories that are mainly relevant in the traditional hospitality literature, in addition to the previous studies that focused on P2P accommodation sharing model.

Market conditions in your region affect a new hotel's viability significantly. How many rooms you can rent and the prices you can charge heavily depend on the strength of the demand for local lodging. (Ryan 2011.)

As commonly believed and applied practice in the hospitality industry, the downtowns are generally seen as great business opportunities for lodging establishment because of their central location. Since downtown sites oftentimes offer very short distances to businesses and industry, schools, hospitals, attractions, services, and entertainment, these are effective room-night demand generators. (Ryan 2011.) However, we will discuss the location factor later, cover the determination of location analysis in more detail as a separate section.

Essential questions to be taken into account when conducting a market analysis for a new lodging development may be listed as below;

   − What trends are occurring in the lodging industry?

- Are local economic and visitation trends favorable?
- Who are the competitors and how successful are they?
- What are the potential lodging market segments in the area?
- What occupancy and average room rate could a new property achieve?

(Ryan 2011.)

2.4.2 Factors That Affect Customer Attractiveness in Lodging Properties and Location Factor as Price Determinant

From the customer attractiveness point of view, there are several previous studies that discussed the matter to understand the underlying factors on the value that customers place in the traditional hospitality field. The major mainstream scholarly in real estate, as well as the hospitality field, has an approach of establishing a premise from the viewpoint of competitive advantage, trying to explain the correlation of price and location on customers' decision making behaviour. The paradigm here is the use of an econometric model where it can create identifiable parameters to measure the effect of interrelations that variables have on prices in the micro-level.

Nevertheless, two common classes of informative property pricing characteristics are: structural or physical characteristics (surface area, number of rooms and bathrooms, etc.) and variables related to the property's position or neighbourhood. (Can 1992.) Previous studies have shown evidence to the widespread use of mantra in the real estate sector – "location, location, location" - , the price of a property is significantly determined by the value of neighbouring properties. So as common sense, we can deduce this view as a determining factor for customer value creation also in the tourist lodging properties. (Chica, Gonzalez-Morales & Zafra-Gomez 2020.)

Location is a key factor for accommodation industry business success. A hotel is difficult to move once it is located (Ortasen and Gutierrez, 2006). This means that this affects the performance and survival of hotels, as their services can only be used at a specific location at a specific time. (Dolnicar & Otter, 2003; Sainaghi, 2011). A correct location enables a hotel to reach an efficient occupancy level, gain incremental income, promote market growth and business success, provide quality consumer satisfaction, increase profitability, decrease costs and raise the equity of the stockholders, among other benefits (Mazzarol & Choo 2003).

While various academic endeavours have concentrated on lodging location choices, particularly in an urban setting, little research has been committed to understanding the

relative impacts and significance of hotel location factors on the revenue performance of hotels (Adam & Amuquandoh 2014).

A commonly used approach for determining the value of accommodations' attributes is hedonic market modelling (Rosen 1974), and is focused on the premise that various values for a good or service may be viewed as composites of attributes and characteristics (Dudas & al. 2020, 4).

A number of recent contributions employ hedonic models, for example, Espinet, Saez, Coenders and Fluvia (2003) investigated how characteristics of tourist resorts in a sun-and-beach segment affected room rates and found that the size of the property, the distance to the beach and the amount of free parking space had a substantial impact on the price. Similarly, Zhang, Yeh, and Law (2011b) applied regression models to investigate the effect of lodging attributes and hotel class on the room prices of New York City hotels. They found that hotel location and room quality are significant customer value elements. With the use of geographically weighted regression method in another research, Zhang, Zhang, Lu, Cheng and Zhang (2011a) analysed the influence of site and situation attributes on room rates in Bejing; thus they revealed the fundamental impact of hotel's star rating, age and location have on room prices.

2.4.3   Identification of Location Factors

As previously discussed the importance of the proximity to the businesses and industry, schools, hospitals, attractions, services and leisure activities, these are known as effective room-night demand generators to be taken into consideration when locating a lodging property. Although hotel location choice varies for different kind of hotels depending on the operations, there are commonly applied determinants outlined below for location analysis; (Ryan 2011.)

- **Description of Immediate Area** – commercial profile, adjacent land uses, proposed developments, safety, and availability of nearby services (food, services, shopping)
- **Proximity to Demand Generators** – businesses, colleges, hospitals and other institutions, convention facilities, and tourist attractions (museums, historic sites, recreation).
- **Traffic Volume** – highway/street traffic counts and traffic patterns
- **Accessibility** – proximity to major streets and highways, ease of entrance and exit
- **Other Issues** – Site size and social, political and environmental concerns related to development downtown.

(Ryan 2011.)

2.4.4 Location Factor on Airbnb Lodging Units (Location-Price Relation)

Location choice is an essential determinant of hotel room performance and several numbers of previous studies aimed to explore to what extent location factor influences customer attractiveness of a traditional lodging unit from the viewpoint of competitiveness. Although a big number of academic efforts were carried out on locational factors and its impact on traditional hotels performance, literature for location factor on Airbnb unit performance is limited.

Over the previous decade, the rise of sharing economy based accommodation rental business (e.g., Airbnb and Homestay) has highlighted the necessity to investigate the property location issue; there is different demand and supply mechanism for hotel and accommodation-sharing properties (Guttentag & Smith, 2017; Yang & Mao, 2018). The supply side of home-sharing systems relies primarily on established housing homes which are mostly situated in less tourist-centred communities while it is driven from a demand-side viewpoint by recreational travelers, who appear to be less location-dependent. Such differentiation contradicts the conventional perception of lodging location factors in large cities; therefore, more comprehensive studies are required to better evaluate the accommodation-sharing market, which has become an integral part of the urban tourism field. (Yang & Mao 2020.)

Based on the previous research conducted by Yang and Mao (2020), overall, the results showed evidence to a number of primary location-based variables, such as degree of urbanization, proximity to the point of interests (POI), accessibility to airports, and local climate.

In another study, Chica-Olmo, Gonzalez-Morales and Zafra-Gomez (2020) investigated the effects of location on Airbnb lodging pricing in Malaga, Spain and they found out a major positive and negative effects of locational factors on Airbnb property prices in Málaga. Their result demonstrated that the proximity to the city centre, the beach, points of interest and the walkability of the neighbourhood where the property is located has a major positive impact on the price (Chica-Olmo, Gonzalez-Morales & Zafra-Gomez 2020).

3   Theoretical Framework For Financial Planning

The purpose of this chapter is to explain the theories used necessary for the research topic. Since the topic of the thesis is financial planning for the start-up phase of author's upcoming short-term accommodation providing company, the main theory used would be financial planning principally, defining cost accounting, budget and budget planning in particular. More specifically, it covers the definition of budgeting, describes the generally applied concepts such as cost behaviour and cost structure, cost-volume profit analysis, break-even point and break-even analysis, profitability accounting, pricing and pricing methods. The chapter also aims to briefly explain the techniques used to measure the financial performance of lodging operations as well as covers some basic concepts for investment evaluation. Additionally and mainly, the chapter prepares ground for the empirical part of the thesis study; hence it takes into consideration Airbnb as a phenomenon to explain the management accounting techniques and models used from the viewpoint of shared-economy based vacation rental business.

3.1   Budget and Budgeting

Since the main objective of this thesis report is to investigate business and financial opportunities thus generate guidance for the author's future business operations with a focus on financial calculations and planning, the principle theoretical framework would be about budget, budgeting and budgeting models. According to the Chartered Institute of Management Accountants (CIMA) (Madegowda 2006, 416), **budget** is defined as "a financial and/or quantitative statement prepared and approved prior to a defined period of time, of the policy to be pursued during that period for the purpose of attaining a given objective. It may include income, expenditure and the employment of capital". Another definition for **budget** according to Bertizel is explained as; "a forecast, in detail, of the results of an officially recognized programme of operations based on the highest reasonable expected operating efficiency" (Madegowda 2006, 416).

As there could be found many numbers of definitions and explanations for the term **budget, budgeting** refers to the process and the frames for action plans to achieve the pre-determined target**.** William J. Vatter views **budgeting** as "a kind of future tense accounting in which the problems of future are met on paper before the transactions actually occur" (Madegowda 2006, 417). On the other hand, for George R. Terry, "**budgeting** is the principal tool of planning and control offered to management by accounting functions" (Madegowda 2006, 417).

3.2 Cost-Volume Profit Analysis

As one of the investigative questions of this study is to figure out an optimal cost-profit structure, a cost-volume-profit calculation and analysis play an important role. For an efficient and healthy revenue and profit estimations to be made for the case company, a fundamentally important element is to consider the use of financial methods to determine an optimal profit margin within the pre-set budget plan and the company's strategy. Traditionally, production/operating costs, sales volume and sales price of the products or services are the main elements that result in companies' generate profit or loss. Ramagopal (2008, 168) defines **cost-volume-profit analysis** as a systematic method used with the purpose of examining the correlation of cost, volume and price and its effect on the behaviour of profit.

When studying cost-volume profit analysis (CVP), there are three main components that are all interrelated with each other, and each impacts one another. For instance, the selling price has an impact on profit. Selling price, on the other hand, heavily depends upon manufacturing cost and the manufacturing cost is impacted by manufacturing volume. Regardless of whether product selling or service providing the company is, most of the companies have to deal with fixed and variable costs. Fixed costs, e.g. office rents, insurance, equipment and facility lease, licence and patent fees etc. do not vary straightly with the production volume while variable costs, e.g. raw material, electricity and fuel cost, labor costs etc. directly depends upon the volume in the short-run. (Ramagopal 2008, 168.)

3.2.1 Cost Behaviours

As the cost of production of a company is related directly with the volume of production, starting point to conduct a CVP analysis, is to categorize costs as being whether variable or fixed costs.

Variable costs are the ones that increase when the production volume or the number of services provided increase or decrease when the volume decrease. However, even though variable costs depend upon the volume of business activities, on a *per-unit* basis, they remain constant. For example, let's say the cost of raw material is €20 to produce one unit of product. If the number of units produced grows, the total cost of material will grow too, yet the material cost per unit would be still the same, fixed at €20. (Bettner 2014, 102.)

Fixed costs, on the other hand, behave just in the opposite way of variable costs, meaning fixed costs remain fixed in total irrespective of the volume of business activities, however, on a per-unit basis, fixed costs show an inverse relation with volume across a normal range of activity. For instance; if a company's total monthly fixed costs within a normal range of production/service providing activity remains fixed at €10 000 and the number of a normal range of production activity is from 100 units to 1000 units. So, when a 100 units are produced in a given month, the average fixed cost per unit would be €100 (€10 000 / 100 units). With the same logic, when the number of products produced raises up to 1000 units, the average fixed cost per unit would equal to €10 (€10 000 / 1000 units). So, this tells us that the higher the volume of activities, the lower the fixed cost per unit is. Hence, it is always *total* fixed costs taken into account on a CVP analysis as unit costs vary depending on volume. (Bettner 2014, 103.)

3.2.2 Contribution Income Statement

In general, when preparing an income statement, generally accepted accounting principles (GAAP) is the format that is used for external users, e.g. tax authorities, public bodies, stockholders etc. This format categorizes costs as cost of goods sold (COGS) which include all the material expenses and operating expenses, which is related to non-material expenses such as salaries, rent, insurance, licence fees etc. Different than GAAP, in the *Contribution Format*, total variable and total fixed costs are the cost components that may include items of both cost of goods sold as wells as operating expenses. Contribution format is used for managerial (internal) purposes; thus, it lies at the heart of CVP analysis. Below is an illustration of income statements (figure 1) that are in GAAP and contribution format;

GAAP FORMAT	CONTRIBUTION FORMAT
Sales	Sales
Less: Cost of Goods Sold	Less: Total Variable Costs
Gross Profit	Total Contribution Margin
Less: Operating Expenses	Less: Total Fixed Costs
= Operating Income	= Operating Income

Figure 1. Income Statement Formats (Bettner 2014)

3.2.3 Contribution Margin and Break-Even Analysis

"Break-even analysis establishes the relationship between revenues and costs with respect to volume. It indicates the level of sales at which total costs are equal to total revenues" (Ramagopal 2008, 170).

Break-even point is defined as the position at which a company's total sales revenues are equal to total costs, meaning that the company is in the equilibrium point. Another way to describe it is that the equilibrium point is the zero point where the company generates no profit or loss. (Ramagopal 2008, 170.)

Contribution margin refers to the remaining amount after subtracting the total variable costs from total sales that is the key term to perform CVP analysis. A firm's contribution margin indicates the amount, including fixed costs which means that it is the sum of profit and total fixed costs. Total contribution margin has to exceed all the total fixed costs in order to be in the position of profit; otherwise, the firm makes just loss. The amount of difference corresponds to the amount of loss. The amount that is derived when multiplying the total number of units sold with the contribution margin per unit also equals to total contribution margin.

Contribution Margin = Total Sales – Total Variable Costs

Contribution Margin = Number of Units Sold x Contribution Margin Per Unit

Contribution margin per unit then represents the amount that is obtained by deducting the variable cost per unit from sales price per unit. In other words, as Ramagopal expresses (2008, 171) contribution margin per unit as the exceeding amount after covering variable cost per unit when sales price per unit is higher.

Contribution Margin Per Unit = Selling Price Per Unit – Variable Cost Per Unit

Other CVP Equations:

Contribution Margin = Total Fixed Costs + Profit

From the formulas above we derive the sales formula below;

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Total Number of Units Sold = (Total Fixed Cost + Targeted Profit) / Contribution Margin Per Unit

Total Sales (€) = (Total Fixed Cost + Targeted Profit) / Contribution Margin Percentage

Break-even formulas;

Break-even point (BEP) in units = Total Fixed Cost / Contribution Margin Per Unit

BEP in Units = Total Fixed Cost / (Selling Price Per Unit – Variable Cost Per Unit)

Thus, multiplying the formula above we deduce break-even sales amount;

BEP Sales = Total Fixed Cost x Selling Price Per Unit / (Selling Price Per Unit – Variable Cost Per Unit)

3.2.4 Profitability Ratio

Profitability ratio is a concept to express the relevance and the value of the profit that a business generate. It should be presented in regard to such other figures such as sales revenue, total assets or owner's equity (Sotiriadis 2018, 176). It is calculated as below formula;

Net Profit Ratio = Net profit before tax / Total sales revenue

3.3 Financial Management Concepts Specifically for Tourism & Hospitality Field

Service businesses, especially hotel or vacation rental type of services differ from traditional services businesses in terms of revenue and profitability calculations. From the revenue management perspective, service products of a hosting business is basically a hotel room or a vacation rental which means a hotel room that was not sold previous day cannot be sold again today as it is the case in other types of businesses. Hence, financial management with regard to revenue estimation in short-term rental operations is inevitable to review.

3.3.1 Occupancy

As perishable products, vacation rental units that are not sold last night could not be sold today, meaning that it is not available for booking anymore. Since unsold nights turn into a missed sales opportunity, **occupancy** is an indicator that hosts and property managers consider principally in terms of revenue generation. (Airdna 2018.)
Occupancy rate is measured simply by dividing the number of sold nights by the sum of sold and unsold nights (Airdna 2018).

3.3.2 RevPAR

RevPAR stands for *revenue per available room* is a metric that is used in hotel revenue management. RevPAR is an indicator that is obtained by dividing total rooms' revenue by the total available room number (Sotiriadis 2018, 177).
However, in the context of Airbnb rental units, it is achieved by multiplying the Average Daily Rate (ADR) by the occupancy rate (Airdna 2019).

3.3.3 Yield Management

Yield Management is a concept that measures the performance of hotel or lodging operations. As real revenue achieved is compared to the total possible revenue measured on the basis of 100% room occupancy, the yield percentage is an aggregate metric that indicates the level of business performance. (Sotiriadis 2018, 177.) It is formulated as below;

Yield percentage = Actual rooms revenue / Maximum potential rooms revenue

3.3.4 Investment Analysis Methods Used in Tourism Ventures

Discounted Cash Flow is used to evaluate expected returns from an investment with regard to its initial cost. The value of money is realized in terms of time which is then expressed as interest on the basis of future cash flows. (Sotiriadis 2018, 186.)

Net Present Value is a method that is used to discount future cash flows at their present value on the basis of estimated minimum rate of return (discount rate). Net present value

is the difference derived by subtracting cashflows of investment costs from the present value of cash flows. (Sotiriadis 2018, 186.)

Payback Period is a metric that simply expresses the length of the time period that is necessary to recover the investment cost (Sotiriadis 2018, 186).

3.4   Pricing

Pricing is a relevant issue in tourism and hospitality management, and it is intensively discussed in recent years. Although price-setting varies from enterprise to enterprise the main elements to be taken into consideration to set optimal prices are as follows;

- Analyse the demand/target market.
- Analyse operational features: the cost structure, i.e. fixed costs (do not vary with sales volume) and variable costs (vary in proportion to sales), price and profit relationships.
- Check competitors' offering and current prices.
- Select appropriate pricing methods.
- Review current and potential cost increases.
- Take into account current and forecast inflation.
- Take into account the general economic situation.
- Set prices.

(Sotiriadis 2018, 179.)

Kotler (2000) identifies two types of factors that affect management price-setting; those are internal and external factors. Internal factors can be described as pricing goals, expenses, resources, positioning, distribution channel, customers (customers' perception of the value), product etc. On the other hand, external factors are those that are out of the companies' control, such as demand, industry type and field structure, competitive environment, legislation/regulatory (taxation policy). (Sotiriadis 2018, 179.)

In the context of the home-sharing rental business, there are a variety of methods used by hosts or business managers. For example, Airbnb has a set of pricing tool that enables hosts to determine the price based on the real-time demand and supply dynamics (smart pricing) that can be defined as **dynamic pricing**. However, Airbnb provides a 100 per cent freedom for hosts to set the prices they want to charge guests if they do not want to use the smart pricing option. (Kwok & Xie 2019.) One of the very common way that managers apply in the hospitality business to maximize profit is **price manipulation**. Adjusting prices for the purpose of affecting demands is a basis of revenue management in the service companies who provide perishable products with fixed capacities. (Gallego

& Hu 2014.) **Price positioning** is defined as the difference of the relative prices between an accommodation unit and its competitors (Lee 2015). Similarly, Melis and Piga (2017) explain dynamic pricing as a pricing method in which the price variation and/or fluctuations of a product are measured over a period of time which is a commonly applied pricing approach in hotel sector (Abrate & Viglia 2016).

Since prices are commonly used in competition between similar lodging products as a manipulated variable (Choi, 1991), competition between hotels within a 10-mile radius is especially relevant (Lee, 2015). In order to achieve the right price at the right time, it is also important for services companies to control sales to optimize sales (Gallego Hu 2014). For example, price positioning, a commonly used strategy of revenue management, where hotels can closely track prices against the offerings of similar competitors and then strategically place the price of their goods to a level that over time is higher, equal or lower than the close competitors (Noone et al.,2013; Xie and Kwok,2017). However, in operations, dynamic pricing strategy is also a frequently implemented practice, changing room prices in line with the number of rooms available in real-time, the amount of room inventory, near competitors' prices, and any other market indicators (Viglia et al., 2016).

Given the fact that Airbnb home-sharing properties have similar characteristics with traditional hotel rooms such as -perishable product offerings with fixed capacities- Airbnb hosts are suggested to adopt price positioning and dynamic pricing strategies in order to maximize profit and revenues. This argument is further supported by Kwok and Xie (2019) based on their empirical study on pricing strategies on Airbnb. As a conclusion of the same study, they suggest Airbnb hosts to take a fairly high-price market position. Although a dynamic pricing strategy in which hosts change the listing price dynamically according to fluctuating market demands can be helpful in improving the revenue efficiency of a listing, multi-unit hosts are encouraged to be highly cautious in adopting a dynamic pricing strategy to prevent adverse effects of it. (Kwok & Xie 2019.)

4 Project Implementation

The main objective of this chapter is to investigate revenue estimation alternatives for the case company, thus aims to develop an estimated financial statement tool.

The chapter mainly describes the processes and the implementation plan to establish a model. First, it starts with analysing location attractiveness based on the theoretical knowledge covered in chapter 2 in order to determine a base point for the price assumption to be used in the tool. Further, it explains the types and the source of data obtained for project development that is necessary to make realistic assumptions to use in the financial planning tool. As the main objective, the chapter covers the cost structure and income estimates of financial planning. Thus, it presents the estimated cash flow statement as the outcome and ends the chapter with the analysis of the results.

4.1 Description of Implementation Process

As the price of a lodging unit highly depends on the seasonality and the other demand factors that are listed in the previous chapter, there is no one certain way or an exact formula to prepare financial estimation tables. It is impossible to predict trends and demand to, for example, one year ahead with exact precision; thus, it is very complicated and challenging to set a price for future in order to make a robust revenue estimation. However, it is more viable and practical to create a price (pricing) model based on the company's strategic plan and goals. Our approach here is to figure out a base point on which we can count all of our future financial projection. For this reason, our method to set price is based upon the market value model where the average price of the items are employed in the selected market area to form an estimated but realistic revenue and cash flow statements.

From the viewpoint of competitors and the revenue generation, the appealing pricing strategy here is to maintain a highest possible price without it leading to lowering occupancy level, thus decreasing the profit margin. Since the price of an Airbnb unit is directly related with the physical attributes, e.g. location, space, amenities and non-physical attributes, e.g. sociability, trustworthiness, reviews, host ratings etc. (Dogru & Pekin 2017), our approach to building a model is based on the benchmarking of similar listings' attributes that are located in the same neighbourhood with our projected unit within close proximity. Thus, it enables us to determine a starting base point to make a price assumption to be employed in our excel tool so that future sales revenues would be possible to be feasibly projected.

Upon determining location area for the unit and setting a base price to be employed in the financial estimation tool, the next step is to set the cost structure of the model based on the theory explained in chapter 3. Last but not least, reflecting the theoretical knowledge on concepts and formulas mentioned in chapter 3 is essential to make financial calculations that help facilitate financial analysis for the purpose of helping future decision making.

Throughout the process of project implementation, MS Excel is deployed as the main project management tool which we use to develop a financial model where we can build our cashflow statement and revenue estimation tables upon. Excel is also exploited in the development of financial formulas in order to make automated calculations.

4.2   Data Collection and Sources

As generally referred theoretical concept among academia, there are two types of data collection sources; primary data collection and secondary data collection. Primary data refers to data that is obtained from a primary source. These are not used anywhere else before, and that is collected by, for example, interviews, surveys, questionnaires etc. On the other hand, secondary data is obtained from a secondary source that the researcher use for the second, third or more times for his/her data analysis. Secondary data refers to data that is already collected previously by someone else that can be collected from for example public or private data archives, data from journal articles, magazines, books, research papers, thesis reports etc. (Mligo 2016, 94.)

The research for the implementation of the project heavily relies on the information obtained from secondary sources. The information gathered from the secondary sources such as local periodicals and investment guides, public and private data publications determined the general course of the process. The publications in local investment, as well as websites that provide market insight and useful information on investment evaluation for short-term rental operations, are reviewed as guidance. The publications for local business were studied and the statistical dataset obtained from Helsinki hotel investment guide was analysed in the evaluation of property location choice. Furthermore, data releases and reviews in Statistics Finland were referred to get a market insight for local tourism and accommodation market situation and the statistical figures and tables were analysed for housing and price statistics. Additionally, global market intelligence and data providers such as eLibrary, Skift Research and Statista were explored as a source of sectoral data and market information providers. Data reports and tourism statistics were

looked into for gaining an overview of the market condition in the tourism sector in general. Market research and data analysis reports were viewed to get an idea of industry trends for the lodging industry in general level as well as releases of statistical figures were analysed to get an insight for Airbnb market condition and trends in a particular level.

Although secondary quantitative datasets comprise the majority of data collected in the course of project implementation, primary data collection was also necessary to test our price assumption. For this purpose, the Airbnb website was used as the source of primary data to obtain average price information for the selected sample in the selected area.

On the design of excel tool, the websites of online programs that provide professional training for Airbnb hosts were utilized. Namely, websites learnbnb.com and passiveairbnb.com which were widely used as data and information source in previous academic studies were inspired on building of financial estimation model.

4.3   Location Analysis

Based on the previous studies conducted on the location attractiveness, we can come to conclusion that locational factors are not as vital as in the traditional hotel and lodging establishment. The main influencing reason for that is that a disruptive innovative system that sharing economy-based business model has emerged with the home-sharing type of accommodation services and huge philosophical change it has induced on consumers behaviour. According to the research result of Yang and Mao (2020), their findings show evidence to that, in general level, Airbnb travelers appear to be less location-dependent in urban tourism, that further supports our statement. This is because also the new elements of customer attractiveness that influence on customer's decision making that P2P based accommodation sharing model has introduced. Wang and Nicolau (2017) identified these elements as host characteristics (e.g. Superhost status, profile picture), reviews and star rating of hosts, special amenities and differentiated accommodation attributes. For these reasons, we will not carry out a specific study of location analysis in this thesis project that requires thorough market research and analysis, which is the topic of another thesis study. Nevertheless, taking into consideration the mantra "location location" in real estate and hospitality industry, we have investigated the most attractive neighbourhoods in the capital region in Finland in order to spot top locations for Airbnb properties in terms of competitiveness.

The approach here was to identify the popularity of neighbourhoods in the Helsinki region in order to locate properties from the viewpoint of high occupancy level that would

positively impact competitive advantage and profitability. Hence, we referred to publications and statistics on both country level as well as the local level to understand main drivers on travelers choice of certain neighbourhoods for overnight stays.

With the above-mentioned motives and the price determinants covered in the theoretical framework of this paper, referring to the regional publication on hotel investment was appropriate to refer to. The publications of Helsinki Business Hub - the international trade and investment promotion agency for the Finnish capital region- was used as a reliable data source. Helsinki Hotel Investment Guide 2019 is the name of the periodical that influenced the choice of property location. According to the data extracted in this periodical, the districts with development projects and commercial hubs are highlighted as recommended areas to invest in hotel development. The primary motivation for why these areas with commercial and recreational hubs are seen as a basis for location consideration to start Airbnb home-sharing business was because it was in line with the related theory section covered in the previous chapter. Hence, we focused on the districts that are described as growth corridors in Helsinki metropolitan area in the guide which are namely Aviapolis, Keilaniemi, Helsinki Waterfront Jätkäsaari, the Pasila District, Kalasatama, and the Kallio-Sörnäinen district. All of these districts have common characteristics in terms of accessibility and infrastructure development and is convenient to reach by means of public or private transport. (Helsinki Hotel Investment Guide 2019, 12-13.)

4.4 Expenditure (Cost Structure)

As discussed in the previous theory chapter, costs or expenditure as in the context of our project, are divided mainly under two categories; variable and fixed costs(expenditure) on a running business operations. Apart from operational costs, this project also requires initial investment before starting business operations that is referred as **start-up costs**. Thus, this subchapter involves also calculations of start-up costs as a part of cost elements.

4.4.1 Start-up Costs

Start-up costs here refer to the expenditures that are required to start the actual operations of a firm at the beginning, which are one-time expenses. In our case company, the costs before the first rental, e.g. security deposit constitutes the biggest part of the

start-up costs. In Finland, collecting a security deposit which is the equivalent amount of one or two months of the rental amount is a very general practice exercised by landlords before starting the lease agreement. Our assumption for the security deposit as well as other start-up costs is based on 45 m2 one-bedroom apartment.

Other start-up costs for the case company are, furniture costs including transportation cost of them, cost of decorating and photographing services, appliances (TV, washing machine etc.), the cost for the bedroom such as sets of sheets and bed linens, curtains etc., the cost for the bathroom (e.g. towel sets, mats, disposable goods, shower curtains etc.), the cost for the kitchen (e.g. utensils, coffee machine, water boiler, toaster etc.), internet setup, smart door lock for keyless entry for guests. Since major kitchen appliances namely fridge, oven and sometimes dishwasher are mostly included in the rental agreement in Finland, these are not counted as cost elements in the calculations. Price assumptions are made based on a basic internet search and the author's previous experience as an Airbnb single unit host. Budget planning of the case company and identified main customer segments to serve were taken into account when determining a price range to construct the frame of start-up expenditures. Table 2 below represents start-up costs that constitute a part of the income statement as one-time expenditure;

Table 2. Start-up Costs

Startup costs		
Security deposit	2 040 €	
Furniture	2 000 €	Major furniture items like, bed & mattress, couch, coffee table, dining, etc…
Appliances	500 €	TV, washing machine
Bedroom (non furniture)	150 €	Sheets etc.
Bath (non furniture)	50 €	e.g. towel sets, basic disposable toiletries, mats, shower curtains, etc.
Kitchen (non furniture)	75 €	e.g. dishes, utensils, etc.
Internet setup	180 €	Wifi router
Photographing	200 €	Photographing services for listing
Decoration	500 €	Interior design service
Smart door lock	200 €	
Total startup cost	5 895 €	

4.4.2 Fixed Costs (Recurring monthly costs)

Fixed costs refer to the ones that remain unchanged irrespective of the total volume of business activities as covered in the cost behaviour subchapter of this report in section 3.2.1. In the context of Airbnb rental business, fixed costs mainly represent monthly recurring costs. These are namely monthly lease payment, utility fees (e.g. electricity,

water, heating, etc.), internet bill, home insurance, other monthly recurring costs (e.g. Netflix subscription).

When setting monthly rent price, we relied on the statistical data from the website of Statistics Finland in order to have a most realistic assumption. According to data release in Statistics Finland, the average rent price per square meter for non-subsidised rental dwellings in Helsinki is measured as 22,7 euros on the 4th quarter of 2019 (Statistics Finland 2019). Based on the case company's operational strategy and planning, we determined a 45 m2 of one-bedroom apartment that can host up to 4 guests. Hence, the projected monthly lease cost makes 1021,5 euros to be used in the recurring costs table, which we rounded as 1020 euros for easy calculations. Other prices for costs are simply attained on the basis of web search of the related items as described in table 3 below;

Table 3. Fixed Costs

Fixed costs (monthly)			
Monthly lease	1 020 €	Gross lease	
Utilities	50 €	/month (electricity, water)	
Internet	25 €	/month	
Insurance	15 €	/month	
Other	10 €	E.g. Netflix, HBO subscription	
Total fixed costs (monthly)	**1 120 €**		

4.4.3 Variable Costs (Costs per stay)

As covered in the theoretical subchapter 3.2.1 of this paper, variable costs behave in linear relation with the volume of business activities, meaning that it increases or decreases depending on the increase or decrease in volume. For our project, variable costs correspond to costs that recur per stay. These are namely cleaning services (maid services) and consumables, e.g. toilet paper, shampoo and shower gel, washing liquid, paper towel and serviettes etc. The price information is obtained from the websites of professional cleaning services and other related websites via a basic internet search that is illustrated in table 4 below as variable costs;

Table 4. Variable Costs

Variable costs (per stay)		
Cleaning services (external)	30 €	/stay
Consummables	5 €	/stay
Total variable costs (per stay)	**35 €**	

4.5   Revenue Assumption

In this subchapter, the steps for setting an estimated monthly income table is presented. It explains the methods to set a price assumption for the projected rental unit and its result. It covers the approach to determine the occupancy rate assumption and result of it as well as other items used in the income estimation table are explained.

4.5.1   Research Approach for Price Setting

As a starting point, we have referred to statistical data from the related webpages from public and private sites in the lodging industry as well as sites for sharing-economy based accommodation field. First and foremost, viewing the public webpages such as Statistics Finland and Helsinki business hub as the data source was necessary for obtaining average rates and figures. Next, data for home-sharing or vacation rental type of accommodation units in particular is investigated for a more precise analysis. For this reason, we extracted data from AirDNA -a reliable source of market data and statistical insight for vacation rentals listed in Airbnb and Vrbo web platforms- as well as vertaaensin.fi -a local web platform for comparison of financial products- in order to obtain **average daily rate**, **occupancy rate** and **average monthly revenue per listing** in Helsinki region. The figures 2, 3 and 4 below demonstrate the related statistical data for vacation rental listings in Helsinki;

Figure 2. Statistics of rental units in Helsinki (Airdna 2020)
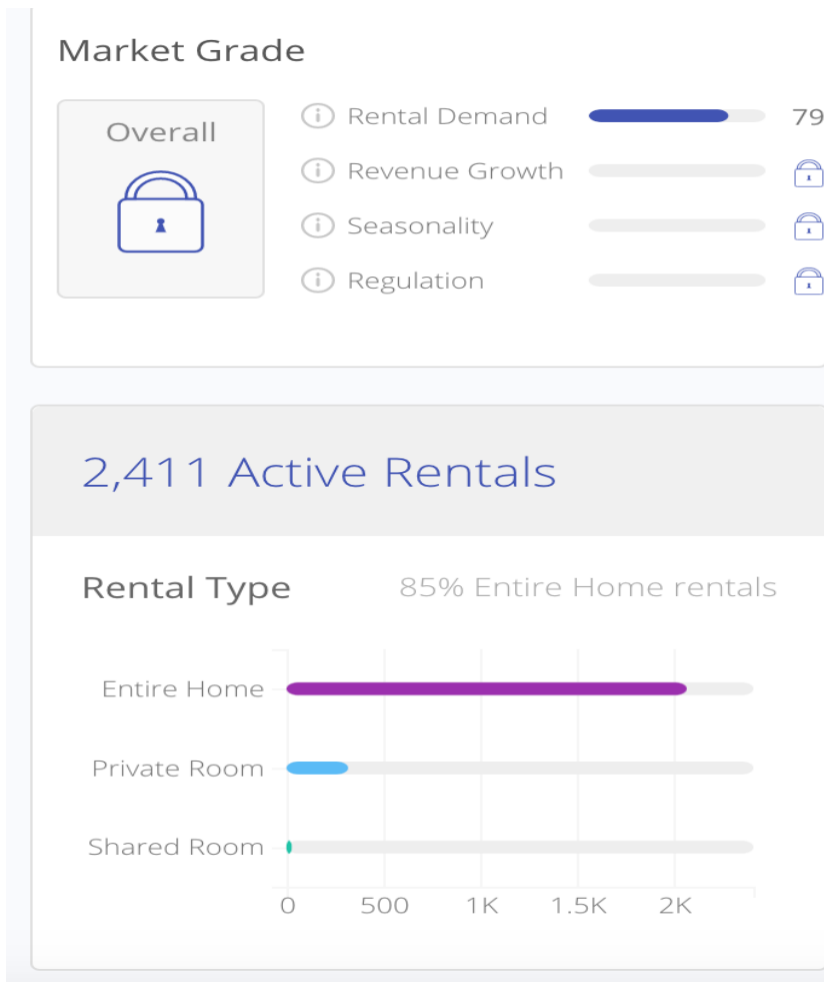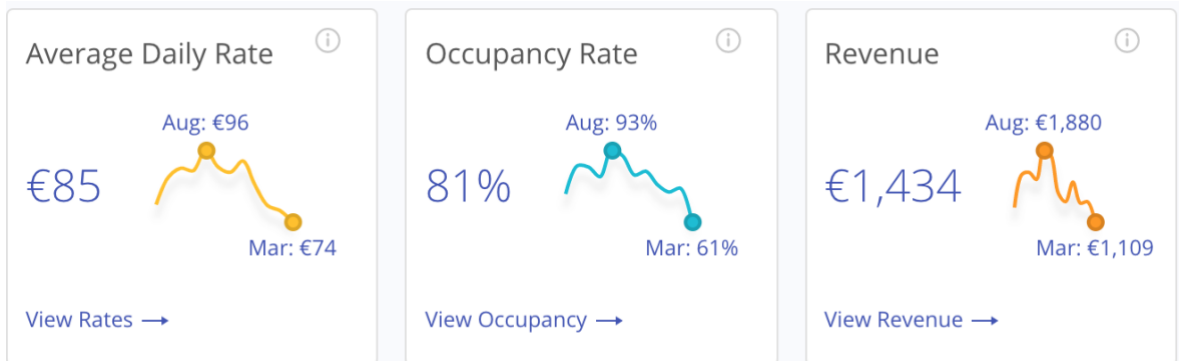

Figure 3. Average market rates of Airbnb listings in Helsinki (Airdna 2020)

	Keskimääräinen yöhinta	Varausaste	Keskimääräinen vuosituotto	Kohteita kaupungissa	Keskimääräinen asiakasarvio
Helsinki	€75.53	83%	€15,452	2572	4.54

Figure 4. Statistics of average market rates for Helsinki in 2019 (vertaaensin.fi 2019)

However, the dataset gathered from AirDNA and vertaaensin.fi represents a very general data that still can not be used as a base for our revenue estimation calculation. For a more precise and realistic assumption, we referred to the Airbnb webpage to analyse and test the secondary data we collected with primary data.

The method we applied simply relies on the comparison of listings with similar attributes with our projected listing, which are the units that can host up to 4 guests in the selected area. Airbnb website allows guests to filter several attributes when booking a listing such as location, type of place, the capacity of the unit, price range, cancellation flexibility etc., that are the basic features of filtering criterias to search listings. Based on location analysis sub-chapter, assuming that the unit listing is located in Sörnäinen-Kallio district, the first step to filter is the number of guests which is four and then navigate the map to this area to preview all the listings in this neighbourhood. After that, clicking on the type of place is necessary to select the "entire home" units thus filtering out "private room" and "shared room" units that are out of our project scope. Finally, navigating the map to the Sörnäinen-Kallio district to preview active listings in that neighbourhood is needed to get a more solid picture on listing prices to compare with. After filtering all the necessary features and navigating the map to the selected area, the average nightly rate results in 139 euros as it is depicted in figure 5 below.
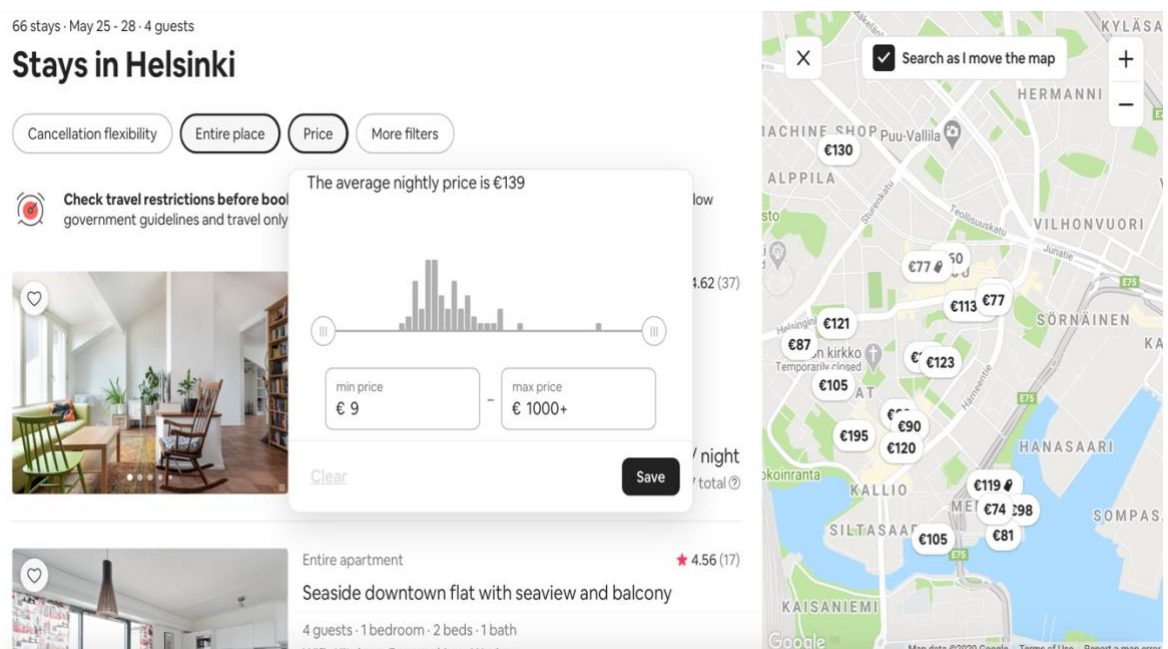

Figure 5. Average nightly rate for the selected search criterias (Airbnb 2020)

This data result represents the average price of listings for four guests reservations on the dates between 25 May and 28 May. When we try it again, take the same steps as

previous one, but this time making the search for one guest, the average nightly price turns out to be 97 euros, and for two guests it results in 102 euros among 137 listings available for this search criteria.

Based on these results and the literature review on chapter 2 of this paper, **102 euros** nightly rate is determined as the base price to be used in our revenue assumption table.

4.5.2 Occupancy

Occupancy is one of the main terms used in the hospitality field that represent the number of nights that are booked. Although statistical data shows around 82 % of average occupancy rate for active Airbnb listings in Helsinki, according to Statistics Finland an average of 64,2 % of occupancy rate has been recorded for all kind of hotel establishments in December 2019 for Helsinki region. (Statistics Finland 2019.) Backed up with statistical data and a conservative planning approach adopted, our assumption for average monthly occupancy is 20 days which equals to 67 % that is quite close to hotel occupancy rates in Helsinki.

4.5.3 Other items to be used in revenue assumption calculation

Other assumptions we used for our revenue estimation table is based on the information we gathered on the website learnbnb.com which is widely used as a data and information source in previous academic studies as well as author's previous experience and observations as Airbnb host. Hence the assumptions for the items below are as follows;

Average nights per stay, 2 nights
Airbnb hosting fee, 3% that is a fix rate that Airbnb charges for all hosts.
Cleaning fee charged per stay, 25 euros.

The earning part of the cashflow model looks as in the table illustrated below (table 5) after determining the figures for the components of earning estimations.

Table 5. Earning Assumptions

Income				
Average occupancy per month	20	Days	67 %	Occupancy rate
Average nightly booking price	102 €	/Night		
Average nights per stay	2	Nights/stay		
Cleaning fee charged/booking	25 €	/stay		

4.6 Results

Table 6. Monthly Income Statement - Output

Monthly income statement		Year 1											
Month		1	2	3	4	5	6	7	8	9	10	11	12
Startup curve		50 %	75 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Gross rental revenue		1 020 €	1 530 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €
Cleaning fee collected		125 €	188 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €
Airbnb hosting fee		-34 €	-52 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €
Adjusted gross revenue		1 111 €	1 666 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €
Variable expenses													
Cleaning services (external)		-150 €	-225 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €
Consummables		-25 €	-38 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €
Total variable		-175 €	-263 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €
Fixed expenses													
Monthly lease		-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €
Utilities		-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €
Internet		-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €
Insurance		-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €
Other		-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €
Total fixed		-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €
Total expenses		-1 295 €	-1 383 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €
Net income		-184 €	283 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €
Cashflow	-5 895 €	-184 €	283 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €
Investment payback balance	-5 895 €	-5 895 €	-5 612 €	-4 860 €	-4 109 €	-3 358 €	-2 606 €	-1 855 €	-1 104 €	-352 €	399 €	0 €	0 €
		-	-	-	-	-	-	-	-	-	-	11	-
Months to pay off	11												
		-	2	-	-	-	-	-	-	-	-	-	-
Breakeven in month	2												

Based on the budgeted expenditure calculations and the price and occupancy (volume) estimation, our projected financial planning model results in a 751 euros of monthly net income. Referring to the theory section for short-term financial planning in chapter 3 of this report, we can make the following calculations;

4.6.1 Contribution Margin

Contribution Margin = Total Fixed Costs + Profit
Contribution Margin = 1120 + 751 = **1871 €**

Contribution Margin is also equal to *Number of Units Sold x Contribution Margin Per Unit*
Thus, we can deduce the formula below;
Contribution Margin Per Unit = *Contribution Margin / Number of Units Sold*

The notion of "unit" we can translate into the booked night; thus the number of units sold means the number of booked nights. So it makes 20 units sold according to our estimated sales projection.

Hence **Contribution Margin Per Unit** = 1871 / 20 = 93,55 €

4.6.2 Break-Even

Break-even point (BEP) in units = Total Fixed Cost / Contribution Margin Per Unit
BEP in units = 1120 / 93,55 = 11,97 days can be rounded as 12 days.

This means that the company needs to sell 12 booked nights until it starts generating profit on a monthly basis.

In our excel tool, we introduced a start-up curve which can be defined as the curve that reflects the ramp-up line until it reaches its full estimated market price and occupancy. So we assumed a 50% and 75% of discount for the first and second month respectively before it reaches our estimated full sales revenue potential. Hence, the break-even point occurs only in the second month.

4.6.3 Yield

Yield percentage (in relation to potential revenue) = *Actual rooms revenue / Maximum potential rooms revenue*

Extracted from the excel tool, our monthly projected sales revenue equals to 2221euros. Maximum potential rooms revenue can be translated as a full 100% occupancy as well as full capacity use, meaning that each of the bookings is made for four guests that is our projected maximum capacity. Based on the search result on the subchapter 4.5.1, assuming a 139 euros nightly rate for four guests reservation, 139 € x 30 days = 4170 € of monthly revenue can be derived before adding the cleaning fee collected and the 3% of Airbnb hosting commission fee deducted.
Since our assumptions are made on the basis of 2 nights per stay or per reservation, 30 days of booking is translated as 15 stays which then turns into 15 times cleaning fee collected. Hence the total revenue collected as cleaning fee 25€ x 15 stays = 375 €. Total revenue after summing up the collected cleaning fees then accounts to 4170 + 375 =

4545 €. The fact that we need to subtract 3% of Airbnb hosting fee from this 4545 euros of gross revenue is because our approach of not realizing this amount of 3% hosting fee as sales revenue since Airbnb releases only the deducted amount to hosts as payout for each booking transactions. Hence, 4545€ x 0,03 = 136,35 € and 4545 – 136,35 = 4408,65 € of maximum potential monthly rooms revenue. Thus;

Yield percentage = 2221 / 4408,65 = **0,5** which indicates **50 %** of room performance on a monthly basis.

Yield percentage in relation to start-up costs (= investment) with estimated occupancy rate (20 days per month) is resulted as in our excel tool;

751 € of monthly net income / 5695 = **13%** of yield percentage on a monthly basis.
And
9016 € of annual net income / 5695 = **158%** of yield percentage on a yearly basis.

4.6.4 Profitability

Net Profit Ratio = Net profit before tax / Total sales revenue
751 / 2221 = 0,34 = **34%** of net profit ratio on a monthly and annual basis.

5   Discussion

5.1   Key Outcomes and Consideration of Results

Excel tool for financial planning with a two years of sales estimation was created, and it is attached in the appendices. It consists of two sheets that are described as inputs and output. It is designed in a way that all the items in the input sheet are synced with the output sheet so that it calculates the desired results automatically in the output sheet. As the tool functions as a template, all the financial figures in the output sheet will be calculated automatically when the figures in the input sheet need to be changed due to fluctuations of demand or price adjustment that seasonal changes have dictated. Similarly, the tool can be easily adjusted/edited to make calculations when scaling up the business with multiple properties.

The thesis project was planned to investigate the revenue and profit estimations for one rental unit with the size of 45 m2 in Helsinki and Sörnäinen-Kallio district was selected as the neighbourhood location. The figures resulted as the outcome of this project would vary in different scenarios. As the revenue and profit of vacation rental business highly depend on the factors such as market condition and size, seasonal factors, allocated budget for market analysis, as well as capital expenditures e.g. start-up costs, tools for pricing, automation, business optimization etc., property attributes and so forth, different variables in a different time, would result in a different outcome. Although very conservative approach with price and occupancy rates have been adopted for revenue assumptions that result in 751 € of monthly net income per projected property, all these key variables and their consequences on the outcome should be taken into consideration when scaling up the business.

Based on the result of the study, price is the overweighted element used as value creation and tool for demand management in the lodging industry. Dynamic pricing is a recommended pricing method for the case company; however, limitation of the pricing with a fixed average nightly rate was applied as to feasibly build a cashflow model for income estimations. Taking this into account, as the pricing strategy adopted in the future operations would have an overall impact on the occupancy level, different pricing strategy then consequently would result in a different revenue formula.

5.2   Recommendations for the Case Company

Although scaling up business operations by increasing the number of properties managed in Airbnb platform would mean scaling up the profit in theory, investigating the revenue and profit opportunities for the apartments that are smaller in size, e.g. studio type of apartments, is recommended. The impact of the size in profit margin and to what extent it impacts the overall profitability is a highly suggested and necessary aspect to further study.

Pricing, as an essential demand determinant and revenue management tool in lodging industry also in Airbnb rental operations in particular, setting a correct price at the correct time for the right customer is a fundamental issue that directly affects sales level. Maintaining a high occupancy level for maximum sales revenue should not be at the expense of decreasing prices, thus losing potential income; hence an efficient price management system is vital for long-term success in financial operations. Therefore, paid online price management tools, e.g. wheelhouse, beyond pricing, everbooked etc. is strongly suggested to be investigated as per their benefits in relation to their costs. Analysing available tools and their impacts with regard to profit maximization and adopting the most suitable one is encouraged for an optimal pricing administration that could then play a crucial role to maintain a higher and sustainable financial performance.

Other business optimization and automation tools, e.g. smartbnb and guesty, are recommended to be investigated as to what extent they are beneficial in relation to their costs. Similarly, market intelligence providers that provide market research and analytics through real-time data such as Airdna is another business optimisation services to be considered to employ both in the planning phase as well as in the operational phase.

Even though operating an Airbnb listing by renting it - so-called rental arbitrage - is very common in other markets such as in the US, this type of business model is yet about to arrive in Finland. From the legal perspective, landlords' consent is necessary for hosting people in the properties of others that are leased based on a long-term rental contract, or it is prohibited if the articles of association of the housing company marks it so. Thus, research on related legislation or legal counselling might be necessary and/or property management companies in Finland could be contacted for this purpose as well as for business cooperation in case of challenges with the feasibility. As Airbnb property management companies are becoming more common in Finland nowadays, it would be useful to analyse these companies and their business models to adopt a similar concept alternatively.

5.3   Conclusion and Suggestions for Further Work

The result of the thesis study shows proof for the profitability of Airbnb business model in the Helsinki area. The cashflow model created as the outcome of the project calculates the net income and cash inflows automatically based on the assumptions placed in the input sheet. So the tool functions as an intermediary to make future forecasting scenarios, though further development of the tool could be necessary in terms of new accounting items are necessary to be added (e.g. taxation, loan etc.) or in case of a change in the cost structure in the operation phase.

For a more precise and reliable financial projection, further research for the impact of the property attributes on the profitability of Airbnb rental units should be suggested to study. The effect of the variables such as price or size of the property and to what extent these variables would have an impact on the revenue and profitability would be an essential research question to be investigated that would provide us with a better and deeper understanding of income estimation for Airbnb rental units.

Another further work should be developing this thesis project through a thorough market research study. An investigation of current demand and competition, market area analysis, as well as a study of the future market trend, are strongly suggested to study to gain better insight into investment evaluation and planning Airbnb business operations.

5.4   Self-Reflection on the Thesis Process and Own Learning

Although initially it was contemplated as a research-oriented thesis that was prepared to answer to a research question in the planning phase, this bachelor's thesis, for several numbers of reasons, has evolved to be a product-oriented study that results in a financial planning tool as the project outcome. Apart from the financial limitations and lack of other sources, one of the major reasons for this was the time constraint that the author had to accomplish the study. Additionally, current global corona outbreak was another impact factor on the course of project development that started to hit strongly in the development stage of conducting this study. Travel restrictions globally had a major impact on the demand on vacation rentals as a consequence of the pandemic strike; hence it disrupted all the previously formulated ways to forecast demand and market trends and led to an economical uncertainty and unpredictable market situation in many of the major

industries. It was quite a big challenge to conduct a meaningful market study to predict future trends for demand and to forecast sales revenue; thus, we were forced to adapt to the conditions as per adjusting the thesis for more practical oriented study.

Apart from the restrictions and uncertainty, upon discussing with the thesis advisor, the project was agreed to keep going based on the assumptions before the strike of the outbreak. The process had several turning points that affected the general development of the process and the project scope. As Airbnb being an emerging segment in the lodging market, initially it was thought that the theoretical knowledge base and the literature is very limited for this thesis topic. However, upon searching for information on the phase of theoretical framework, it surprisingly came to result that there are actually a big number of previous studies conducted in the field to reflect upon.

I, as the author of this thesis report, initially got a higher motivation to implement this thesis project because, in addition to getting graduated, this work would provide me insight into planning my future company and the result would function as a guidebook for the business operations. Even though my plans with starting up own business were momentarily suspended due to the lockdowns and travel restrictions globally, I decided to keep going with this project, because this topic is still interesting to me and the thesis process would add me in terms of personal and professional development.

The whole thesis process has lasted longer than I initially planned and more challenging than I thought. Challenges I faced is not only limited with time restriction overall but also the planning and organization work of thesis construction is a fundamental issue to deal with. This thesis project has taught me the significance of planning and design work before starting the actual thesis project, and how crucial drawing a structured layout can be on the course of thesis development. First and foremost, from this perspective, I got to know that a further review and reconsideration of demarcation or the scope of the thesis project is vitally important and could have a tremendous effect on the course of the process. Time and stress management, organization skills, self-management, research and project management skills, academical writing skills are the main takeaways gained/improved by this study. Furthermore, I had to recap my knowledge base on the financial management that I learned within my specialization field studies and review some concepts on management accounting in particular. Last but not least, this thesis process has proved me the capability of managing the whole process of a real-case business project alone thus improved my self-confidence that could be useful in future business cooperations or in job interviews.

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Appendices

Appendix 1. Cashflow Model

Input values in blue

Assumptions		
Costs		
Startup costs		
Security deposit	2 040 €	
Furniture	2 000 €	Major furniture items like, bed & mattress, couch, coffee table, dining, etc…
Appliances	500 €	TV, washing machine
Bedroom (non furniture)	150 €	Sheets etc.
Bath (non furniture)	50 €	e.g. towel sets, basic disposable toiletries, mats, shower curtains, etc.
Kitchen (non furniture)	75 €	e.g. dishes, utensils, etc.
Internet setup	180 €	Wifi router
Photographing	200 €	Photographing services for listing
Decoration	500 €	Interior design service
Smart door lock	200 €	
Total startup cost	**5 895 €**	
Fixed costs (monthly)		
Monthly lease	1 020 €	Gross lease
Utilities	50 €	/month (electricity, water)
Internet	25 €	/month
Insurance	15 €	/month
Other	10 €	E.g. Netflix, HBO subscription
Total fixed costs (monthly)	**1 120 €**	
Variable costs (per stay)		
Cleaning services (external)	30 €	/stay
Consummables	5 €	/stay
Total variable costs (per stay)	**35 €**	
Income		
Average occupancy per month	20 Days	67 % Occupancy rate
Average nightly booking price	102 €	/Night
Average nights per stay	2	Nights/stay
Cleaning fee charged/booking	25 €	/stay
Airbnb fees		
Airbnb hosting fee	3 %	of gross rent
Valuation assumptions		
Discount rate	10 %	
Terminal value growth rate	-2 %	Negative rate assumes increasing competition after first five years of operation
Time spent		
Hours spent/booking	2,0	hours/month (communication & coordination)
Admin hours/month	6,0	hours/month of admin work
Total hosting related hours	26,0	hours per month

		Year 1												Year 2											
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Startup curve (% of normal occupancy)	50 %	75 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %

Monthly income statement		Year 1												Year 2											
Month		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Startup curve		50 %	75 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Gross rental revenue		1 020 €	1 530 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €	2 040 €
Cleaning fee collected		125 €	188 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €	250 €
Airbnb hosting fee		-34 €	-52 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €	-69 €
Adjusted gross revenue		1 111 €	1 666 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €	2 221 €
Variable expenses																									
Cleaning services (external)		-150 €	-225 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €	-300 €
Consumables		-25 €	-38 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €
Total variable		-175 €	-263 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €	-350 €
Fixed expenses																									
Monthly lease		-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €	-1 020 €
Utilities		-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €	-50 €
Internet		-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €	-25 €
Insurance		-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €	-15 €
Other		-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €	-10 €
Total fixed		-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €	-1 120 €
Total expenses		-1 295 €	-1 383 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €	-1 470 €
Net income		-184 €	283 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €
Cashflow	-5 895 €	-184 €	283 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €	751 €
Investment payback balance	-5 895 €	-5 895 €	-5 612 €	-4 860 €	-4 109 €	-3 358 €	-2 606 €	-1 855 €	-1 104 €	-352 €	399 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €
		.	.	.	.	.	.	.	.	.	.	11	.	.	.	.	.	.	.	.	.	.	.	.	.
Months to pay off	11																								
		.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Breakeven in month	2																								

Yearly cashflow

Year		1	2	3	4	5	Terminal value
Cashflow	-5 895 €	7 612 €	9 016 €	9 016 €	9 016 €	9 016 €	75 130 €
Net present value	63 104 €						

Results		
Paid back in	11	months
Break-even in	2	months
	€	%*
Monthly yield with normal occupancy rate	751 €	13 %
Annual yield with normal occupancy rate	9 016 €	153 %
Net present value**	63 104 €	
Hosting work hours per month	26	
Effective earnings per hour	29 €	

*) in relation to startup cost (=investment)

**) assumes five years cash flow plus terminal value based on declining perpetuity