Airbnb: ICT and the Sharing Economy Paradigm in the Traditional Hospitality Industry

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Declaration

I declare that the work described in this dissertation is, except where otherwise stated, entirely my own work, and has not been submitted as an exercise for a degree at this or any other university. I further declare that this research has been carried out in full compliance with the ethical research requirements of the School of Computer Science and Statistics.

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I would like to thank my family for their support throughout these two years in the distance. I would like to dedicate this work to all of them, and especially to Matilda, who in some time will be able to read it. This dedication is also for Abita, always present in my memories.

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Abstract

The Traditional Hospitality Industry (THI) has been for years the only choice for travellers looking for accommodations. The emerging Sharing Economies are spreading over different fields and businesses reaching the markets that have been historically dominated by static well-established industries. With the help of the Internet and the ICT, the Sharing Economies are threatening the traditional business-to-consumer (B2C) models by implementing consumer-to-consumer (C2C) models, acting as intermediaries and directly connecting consumers, thus becoming an appealing alternative to the services offered by traditional industries. The Sharing Economy represents a paradigm shift in how services are provided to consumers in very various areas like transportation, accommodation, agriculture or money funding for example. Airbnb, the Sharing Economy focused on the lodging services, is significantly changing the way the consumers access accommodation services by offering an online platform where users can register and become guests or hosts.

This dissertation explores the paradigm of Disruptive Innovations and analyses Airbnb from an innovation standpoint to identify the type of innovation that Airbnb represents in the accommodation services market segment besides of its disruptive potential. The research is carried out using a multimethod quantitative study on two sets of data, one primary dataset and one secondary dataset, followed by a qualitative study of Airbnb inside four well-known Innovation Frameworks.

Findings of this dissertation showed an increase in the interest of individuals to make use of the services provided by Sharing Economies as opposed to the services offered by traditional industries. Findings also highlighted the key role played by the ICT and the Internet in their expansion and adoption. This dissertation concludes that Airbnb presents the

characteristics of a Disruptive Innovation and is disrupting the Traditional Hospitality Industry thanks to its radically different business model.

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Abbreviations

THI   Traditional Hospitality Industry

B2C   Business To Consumer

C2C   Consumer To Consumer

URL   Uniform Resource Locator

HTML Hypertext Mark-up Language

P2P   Peer To Peer

API   Application Programming Interface

HPI   Hotel Price Index

SMS   Short Message System

1   Introduction

1.1   Context of Research

The THI, composed of Hotels, Bed & Breakfasts, Guesthouses, Hostels and Self-Catering properties, has been for long time the only choice for consumers looking for accommodations. As in the majority of the industries, the predominant business model in the hospitality services industry has been the business-to-consumer (B2C) model. With the development of the ICT and the Internet a new business model, the consumer-to-consumer (C2C) model, has materialized in the shape of Sharing Economies that allow consumers to connect directly to other consumers in order to get or exchange products or services that otherwise would have to be accessed through the channels established by traditional industries.

Airbnb, a Sharing Economy that provides hospitality services in an online platform that connects directly guest and hosts, is competing with the THI by implementing the C2C model. There is not extensive research on the impact of this C2C model and the Sharing Economies in traditional industries. This dissertation examines the Sharing Economy paradigm and its foundations, the Disruptive Innovation paradigm, and looks for relationships between both of them using Airbnb as a Case Study.

The question formulated in this research is to examine whether Airbnb is disrupting the THI, and if that is the case, examine the reasons why. Due to the lack of specific research on Airbnb and the Sharing Economies in the hospitality services industry, this research is important to depict the coming future for the hospitality services industry and contribute to future studies.

1.2   Background to the Study

In today's world, travelling is a democratized activity thanks to significant changes that have happened across the different actors playing in the travel industry along the time. Everything started with the Airline Deregulation Act of 1978 in the U.S. (Smith and Cox, 2008) that changed the rules of competition by eliminating the government controls over the routes, fares and the requirements for new entrants in the commercial aviation market. After this deregulation, Southwest was the first airline in the U.S. offering cheap airfares to the consumers. In Europe, Ryanair started offering this type of low-cost flights in 1995 (Aviation Knowledge, 2011). These companies integrated the ICT and the Internet into their operations to contain their cost structure, and this had ultimately a positive effect on the affordability of flight tickets to consumers.

Apart of the positive changes in the aviation industry from the consumer's standpoint, the remaining part of the traveller's flight-accommodation binomial usually forces the consumer to deal with the compromise between price and quality in order to reduce the total cost of a trip. The THI has never stood out by its innovation in terms of the implementation of new business models. The reality is that traditionally it has kept the same price structures among competitors in the market, thus reducing the choices for the average consumer, leaving as the only factor of differentiation the accommodation facility's location.

Studies forecast travel to grow globally in the world by 5.4% per annum over the next ten years. These studies also highlight that the demand for international stays is outpacing the demand for domestic stays (Amadeus North America, 2014). In this context, the hospitality industry players that deploy their services both domestically and internationally, like for example the big hotel chains, feature an advantageous position in the market that

allows them reaching a wider spectrum of consumers when compared to smaller players in that industry.

The ICT and the Internet have leveraged the development of a new business model in the hospitality services industry. This new model consist in the direct connection between consumers in what is called a consumer-to-consumer (C2C) model. This model competes with the business-to-consumer (B2C) model running the THI since its origins. The platforms that implement this C2C model are commonly known as *Sharing Economies*. The Sharing Economy paradigm is based on the borrowing or renting of an asset owned by another individual built on top of a non-ownership model. The use of that asset is a temporary access that normally happens when the price of the particular asset is high, and the asset is not entirely utilized all the time by the owner.

The Sharing Economy paradigm has arrived at the hospitality services industry, and the company leading that paradigm shift in the Hospitality Industry is Airbnb. Airbnb allows individuals to search for accommodations offered by other individuals in a single platform that currently covers 34.000 cities in 190 countries all over the world. The platform processes the payments internally in a secure way after the stay happens, and allows the users, both guests and hosts, to leave reviews to increase the transparency of the services provided. The result of the application of the Sharing Economy paradigm to the hospitality services industry is inherently innovative as this industry could be argued to have been static for all its years of existence. This dissertation finds important, and a subject of interest, to analyze the Sharing Economy model from an innovation standpoint compared to the THI model. To carry out this analysis, Airbnb will be used as a Case Study.

1.3   Research Question

The research question of this dissertation is:

 "Is Airbnb disrupting the Traditional Hospitality Industry?"

1.4   Scope of Study

This research will focus on the analysis of the Sharing Economy paradigm applied to the hospitality industry. Airbnb, the leader Sharing Economy in hospitality services, will be used as the Case Study of this dissertation. The research will focus on the innovative nature of Airbnb as a new business model in the hospitality industry, and it will analyse Airbnb inside the Disruptive Innovation paradigm using a number of well-known innovation frameworks.

Due to the methodology selected in this study, composed of a quantitative and a qualitative analysis as described in Chapter 3 Methodology and Fieldwork of this dissertation, there will be two scopes defined for the data collection process. The geographic scope of the quantitative analysis will be the Republic of Ireland in a timeframe defined by the first quarter of the year 2015. The geographic scope of the qualitative analysis of Airbnb will be a worldwide scope with no timeframe defined for the data collected.

1.5   Beneficiaries of the Research

The beneficiaries of this research will be academics, employees of the hospitality industry and any other actor in the THI. This research will provide an insight into how Airbnb is

changing the industry, the reasons behind its success so far and also and insight into the challenges that Airbnb will face in the future.

1.6   Dissertation Roadmap

This dissertation has been structured as outlined below:

Chapter 1 introduces the background of the dissertation topic and presents the research question. This chapter also defines the scope of the research and the beneficiaries of this research.

Chapter 2 reviews the existing literature on the subject of Sharing Economies and the Sustaining and Disruptive Innovation paradigms from a critical point of view. This chapter also introduces the Innovation Frameworks that will be used as part of this research.

Chapter 3 describes the steps followed to build the research methodology employed in this research. This chapter also details the data collection process and the rationale for the quantitative and qualitative analyses of Airbnb carried out in this dissertation. As part of the methodology, this chapter details the ad-hoc tool built specifically for this research to extract a primary dataset from the Airbnb website.

Chapter 4 describes the findings on the quantitative and qualitative analyses carried out in this dissertation. The results of the quantitative analysis done in the first place, have fed the qualitative analysis where applicable to integrate both analyses and provide a better understanding of the findings. Furthermore, this chapter also provides findings on how each of the Innovation Frameworks selected for the analysis of Airbnb fits into the purpose of this research.

Chapter 5 discusses from a critical standpoint the main findings of this research and sets out a summary of challenges that Airbnb and other Sharing Economies will face in the future.

Chapter 6 contains the conclusions and limitations of this research. Future research opportunities are provided.

2   Literature Review

2.1   Introduction

The purpose of this literature review is to provide background information related to the research question selected for this dissertation and analyse the relevant published work on Disruptive Innovations and the Sharing Economy paradigm.

This chapter presents the definition of Creative Destruction, which is the essence of the concept of Disruptive Innovation. At the same time, it reviews previous research materials on the Disruptive Innovation field, to then compare this paradigm to the Sustaining Innovation paradigm to understand how they differ and how they complement one another.

This chapter also discusses the Sharing Economy paradigm to understand how they are characterized and find the commonalities that may apply to all of them. Furthermore, a set of different Innovation Frameworks is introduced in this chapter. These frameworks aim to identify innovations and categorize them depending on its nature. They will be relevant in the Chapter 3 Methodology and Fieldwork and Chapter 4 Findings and Analysis, when they will be applied to the sharing economy in question in this dissertation, Airbnb.

2.2   Creative Destruction

Creative Destruction is a term coined by Joseph Schumpeter 73 years ago in his work entitled Capitalism, Socialism and Democracy (Schumpeter, 1942) to denote a "process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one". In his words, "the

process of creative destruction is the essential fact about capitalism." In broad terms, Creative Destruction occurs when something new kills something older, and this is the fundamental idea that lies under any Disruptive Innovation. An example of this is personal computers industry where Microsoft and Intel destroyed many mainframe computer companies, but at the same time entrepreneurs created one of the most important inventions of this century (Investopedia, 2015).

This process where something older is being killed by something new naturally creates opposing forces. In a business context, these opposing forces usually take the shape of legal actions trying to limit, or in some cases, stop the growth or activity of the new entrants in an established market. For example, Uber, a transportation Sharing Economy disrupting the taxi sector, has been banned in Brussels and Madrid, and has found courts ruling in favour of limiting their activities in Berlin, Paris and a number of cities in U.S. Tesla Motors, the electric car company, is facing legal roadblocks in New Jersey (U.S.) where courts have ruled that cars should be sold through independent car dealers and not directly from producer to consumer as their business model is.

Airbnb, the Sharing Economy object of study in this dissertation, is not safe of legal actions trying to limit their expansion. Cities like New York, Paris, Berlin and Madrid have also ruled in favour of restricting its use (Olsen, 2014). Paris authorities are concerned about online renting encouraging non-residents to keep homes in the city that would otherwise go to Parisians, so they have recently introduced more restrictive requirements for second home rentals (Moules, 2014). In New York, the attorney general Eric Schneiderman, filed a subpoena against Airbnb demanding the records of 15,000 of its hosts after pressures from the Hotel Industry in that city claiming that Airbnb violates New York laws that prohibit some short-term rentals (Bradshaw, 2013). In the same line as Paris, Berlin city authorities blame Airbnb for the increase in the rents of apartments in this

city, so they have created a new housing law banning regular short-term letting of rooms without an official permission (Coldwell, 2014). In Ireland, the Revenue Office has amended the Rent-A-Room relief section of the Income Tax Manual to clarify that short-term lets do not fall within the terms of the relief (Revenue - Irish Tax and Customs, 2015).

There is no doubt that Airbnb is an innovation in the hospitality industry arena as it changes the well-established business model where consumers (guests) connect to businesses (hotels) in order to get services or products (accommodations). Instead, Airbnb connects consumers to consumers, allowing people to act as hosts by renting a room or full apartment and connect to guests that are looking for accommodations. To understand the type of innovation that Airbnb represents, sustaining or disruptive, both types of innovations are reviewed in Section 2.3 of this dissertation.

2.3   Disruptive Innovation vs. Sustaining Innovation

Disruption can be defined in its simplest terms as a as a *"Disturbance or problems which interrupt an event, activity, or process"* (Oxford English Dictionary, 2015).

Innovation is *"the process of translating an idea or invention into a good or service that creates value or for which customers will pay ."* (WebFinance Inc., 2015)

Disruptive Innovation is a relatively new term of art that was coined by Clayton Christensen in 1997 in his book *The Innovators Dilemma* (Christensen, 1997). This term describes a process by which a product or service usually born as something residual takes root initially in simple applications at the bottom of a market and then relentlessly moves upmarket, eventually displacing established competitors. When the concept of disruptive innovation is applied to businesses, they are characterized for targeting smaller

markets with lower gross margins offering in many cases simpler products. Due to these characteristics and the different performance metrics that the Disruptive Innovation applies to its business model, the incumbent players in the market find it unattractive and deliberately leave some space at the bottom of the market for the newcomers to emerge (Christensen, 2015). This unattractiveness for the incumbents of the market segment the innovation is targeting is a key factor to the success of the Disruptive Innovation itself. The fact is that the customers in that particular market segment are the customers that the innovation appeals to. Therefore, it could be argued that a good disruptive business model strategy is one that ensures that it is unattractive to every powerful incumbent in the market (Robles, 2015). To better understand the concept of *Disruptive Innovation* it is key to introduce also the concept of *Sustaining Innovation,* which is what most of the companies that are already market leaders put in practice.

2.4   Sustaining or Incremental Innovation

Market leaders usually innovate by improving gradually what they already have, products or services. By doing so, they can increase theirs profits without worrying too much about making major changes that may involve a radical break with their existing processes or products.

Typically the core values of a company naturally become rigid over time, which leads to a narrower focus on operations and mission resulting in minor and incremental innovations that fit their current organizational design and structures. Furthermore, the loss of creativeness and risk-taking openness doesn´t allow them to carve a niche and disrupt the incumbents as they did when they entered the market, leaving them in a position of disadvantage, which ultimately becomes a problem (Braganza, Awazu and Desouza, 2009).

A possible interpretation could be that Sustaining or Incremental Innovations are not as exciting as Disruptive or Radical Innovations, but they are just as important. Radical Innovations are at first often difficult to use, expensive, and limited in capability. Incremental innovations, meanwhile, are necessary to transform the radical idea into something acceptable to the consumers who follow the early adopters. Eventually, both forms of innovation are necessary because, without Incremental or Sustaining Innovations, the potential enabled by a radical change is not captured (Norman and Verganti, 2014). Implementing Sustaining Innovation programs is a significant challenge for incumbents as they face several inhibitors in the way. The Table 2.1 Inhibitors to Sustainable Innovation contains a categorization of inhibitors made by Braganza et al. (Braganza, Awazu and Desouza, 2009):

TABLE 2.1 Inhibitors to Sustainable Innovation (Braganza, Awazu and Desouza, 2009)

Inhibitors	Description
Pursuit of stability.	Internal systems and structures such as standardization, efficiency and lean management lead to steady-state equilibrium.
Risk avoidance.	Organizations attempt to evade the risks associated with implementing radical change.
Constrained by experience.	Organizations cling to competencies and strategies that are inappropriate for current and future challenges.
Lack of options.	Organizations get locked in by the resources they have.
Legacy systems.	Investments in information systems are an extension of the past rather than designed to support innovation.
Complex power structures.	Disruptive innovations shift power,

	however, those who have power resist yielding it.
Myopic managers.	People focus internally rather than externally.

Facing Disruptive Innovations is not an easy task, and managers of incumbent organizations in an established market find difficult to implement the proper actions to react to them. From their point of view, the Disruptive Innovation poses a threat instead of an opportunity as it does for the competitors, which place them in a position of disadvantage. Those same managers have worked hard to create structures that lead them to achieve sustainable stability in their organizations. Under this inertia, managers and employees have learned to work within those structures, and innovation brings a considerable uncertainty and the perception of being working without clear controls and structures. In this sense Braganza et al. argues that risk is inherent to innovation and cannot be eliminated (Braganza, Awazu and Desouza, 2009). Organizations must manage risk when the situation requires radical changes instead of making changes to avoid it. Particularly Braganza et al. identifies people, processes, and knowledge as the main risks that require close attention for incumbents.

Incumbent organizations often look at the past and to the knowledge gathered from their experience accumulated over many years, and they expect the future to be like the past. They look for sustaining or incremental innovations based on what they already know. (Braganza, Awazu and Desouza, 2009). Roger Martin, Dean of the Rotman School of Management at the University of Toronto, argues '*Corporations are being run scientifically. But what they analyze is the past and if the future is not exactly like the past, or there are things happening that are hard to measure scientifically, they get ignored.*

Most companies try to be innovative, but the enemy of innovation is the mandate to "prove it." You cannot prove a new idea in advance . . .' (Tischler, 2009).

During the times of economic prosperity, Sustaining or Incremental Innovations were enough to sustain businesses, as there was no need to take unnecessary risks to hold a position in the market. In this sense, Savetpanuvong, et al. contend that maintaining a 'sustainable growth rate' is the key to long-term value creation, and an Innovation Strategy is needed to do so. Savetpanuvong, et al. defines Innovation Strategy as '_the process by which a firm manages resources under a dynamic business environment, industry structure, competition, and customer expectations in order to create value through innovative products, services, processes or even business models at the appropriate time with assorted topologies_'. In a context of sustainability, innovation comes from the proper management of the risks and an appropriate use of resources aiming to protect against an adverse future, and allowing a timely entry into different market cycles (Savetpanuvong, Tanlamai and Lursinsap, 2011).

The implementation of Sustaining or Incremental Innovations creates more synergy with existing organization resources and capabilities reducing the cost of implementation and the risk, financial and non-financial, associated with the market uncertainty. Furthermore, by making use of internal learning and knowledge already gathered during years, the gap coming from adopting the innovation into the organization is sensitively reduced. Sustaining or Incremental Innovations also involve fewer social and performance-related risks when compared to Disruptive or Radical Innovations.

There are many factors that play a role in the potential success of a Sustaining or Incremental Innovation. Aspects like the features of the product, the positioning of the product in the market through advertising and promotion, the time to entry in the market,

and the existing products from competitors already in that market can determine this success (Chang, Franke and Butler, 2014).   Another factor that can determine this success is giving to the customers what they want or need. In this line, the work of Eric von Hippel (Von Hippel, 1986) aims to be an evidence of the value of listening to the customers. For him, listening to the customers is an invaluable source of new product ideas. In particular, he refers to lead users, which are "*users whose present strong needs will become general in a marketplace months or years in the future*". In the opposite side, Christensen (Christensen, 1997) argues that firms should not listen too much to their customers to develop Disruptive or Radical Innovations because doing so it would result in Sustaining or Incremental Innovations. The counter argument from von Hippel is that lead users are not the same as ordinary customers, and they should be seen as independent innovators who want to serve their needs without any particular connection to a manufacturer.

Sustaining or Incremental Innovations have an advantage over Disruptive or Radical Innovations when they are implemented. Disruptive or Radical Innovations often finds a force pushing to hold it back. In first place governments do not make the necessary promotion of organizations implementing Disruptive or Radical Innovations due to pressures from incumbents, which usually base their business in Sustaining or Incremental Innovations. Incumbents argue to maintain the status quo due to their duties to the shareholders, and very often they apply this pressure through industry associations because they represent the whole collective, and inside these collectives worse performing companies cannot be distinguished from the ones actually performing well (Bendell, Doyle and Black, 2010). Incumbents usually get the government's support by arguing that innovation, when it disrupts an established industry, would cost jobs. This argument could be disputed to be a partial truth clashing with the concept of *Creative Destruction* coined by Schumpeter, because it is true that innovation may bring the

destruction of some jobs, but at the same time it brings the creation of new ones (Schumpeter, 1942).

2.5   Disruptive or Radical Innovation

Disruptive Innovation is a term widely used in innovation management coined by Clayton Christensen in 1997 in his seminal work *The Innovators Dilemma* (Christensen, 1997). In essence, a Disruptive Innovation, the new product, underperforms when compared to the primary performance dimension of the old product and its mainstreams customers, who, in fact appreciate the old product due to that particular dimension. However, the new product may perform better on an alternate dimension and thus open up a new market. Then over time the Disruptive Innovation improves on the primary dimension to the extent that it eventually appeals to the very mainstream customers that initially shunned it (Schmidt and Druehl, 2008).

The Austrian-American economist Joseph Schumpeter already described the essence behind any Disruptive Innovation, when seven decades ago he coined the term of Creative Destruction (Schumpeter, 1942). Schumpeter (Schumpeter, 1942), also argued in his work entitled *Capitalism, Socialism and Democracy* that radical technological change is a powerful mechanism that can challenge the power of large firms undermining their competitive advantages by rendering the established technology irrelevant (Schmidt & Druehl, 2008).

Innovations usually arise from advances in technology or a deliberate change in the meaning of the product (Norman and Verganti, 2014). Compared to Incremental or Sustaining Innovations, Disruptive or Radical Innovations are not a result of continuous adaptations to the consumer patterns, and instead they can always be traced to the

introduction of a new technology or a new meaning assigned to the product. In other words, Disruptive or Radical Innovation could be expressed like "doing what we did not do before" as opposed to "doing better what we already do" (Norman and Verganti, 2014).

It is not an easy task for managers to identify Disruptive or Radical Innovations. Christensen (Christensen, 1997) claims that although Sustaining or Incremental Innovations have been usually associated with incumbents and Disruptive or Radical Innovations with new entrants, it is on the incumbent's own benefit to try to introduce Disruptive or Radical Innovations if they don´t want to be displaced. Often, the different performance metrics and the non-disruptive nature of the Disruptive or Radical Innovations in the short run make incumbents to fail to take action, leaving some space at the bottom of the market for the newcomers to emerge. The consequences in the long run for incumbents can be in some cases catastrophic as Schmidt and Druehl contend (Schmidt and Druehl, 2008).

Identifying Disruptive or Radical Innovations in the early stages is paramount to take the appropriate actions and fight against them. Taking Dahlin and Behrens (Dahlin and Behrens, 2005) framework as an example, they suggest three criterions to identify an innovation as radical:

> Criterion 1: *The invention must be novel*: It needs to be dissimilar from prior inventions.
> Criterion 2: *The invention must be unique*: It needs to be dissimilar from current inventions.
> Criterion 3: *The invention must be adopted*: It needs to influence the content of future inventions.

Within this framework, the radicalness is defined by criterions first and second. The third criterion defines the success of the invention. The social determinism plays here a critical role as it only occurs when market and sociological forces are aligned. The phenomenon of criterions first and second happening but the third one being missed leads to the well know "the correct idea at the wrong time" situation where many innovators find themselves when trying to disrupt the market (Norman and Verganti, 2014). Examples are Apple's introduction of the QuickTake digital camera and the Newton personal digital assistant in the early 1990s. They both fulfilled criterion first and second, but both failed in the marketplace, thus failing at the third criterion. Ultimately disruptive or radical innovation implies necessarily a discontinuity with the past.

2.6   The Sharing Economy

In 2007, Belk (Belk, 2007) suggested that sharing involves *"the act and process of distributing what is ours to others for their use and/or the act and process of receiving or taking something from others for our use."* Extending this definition, a Sharing Economy is *'an economic model in which individuals can borrow or rent assets owned by someone else. The Sharing Economy model is most likely to be used when the price of a particular asset is high and the asset is not fully utilized all the time'* (Investopedia, 2015).

Albinsson and Yasanthi Perera (Albinsson and Yasanthi Perera, 2012) did an examination of the phenomenon of sharing and collaborative consumption in non-monetary marketplaces. The origin of the collaborative consumption can be set at the Really Really Free Markets organized by the Anarchist Movement as a form of resistance to the capitalist model. Nowadays, the awareness of overconsumption and sustainability has grown to a point where consumer groups work to spread the word about the issue that this represents to the development of our society in a globalized world, where resources are

limited, and the demand for goods and services increases every day. This has leveraged this consumption model from the non-monetary context of public sharing events to a monetary business context, transforming existing markets with the help of the Information and Communication Technologies, and creating alternatives to some well-established industries that provide services like transportation, hospitality, etc. (Albinsson and Yasanthi Perera, 2012).

There are two commonalities in the sharing and collaborative consumption practices identified by Belk (Belk, 2014):

- Their use of temporary access non-ownership models of utilizing consumer goods and services
- Their reliance on the Internet to bring this about.

The Internet has been key in this process by facilitating the expansion of the consumers "circle of sharing" from a scope primarily focused on family and friends to a public communitywide scope (Belk, 2007).

Collaborative consumption can take three main different forms as per Albinsson and Yasanthi Perera (Albinsson and Yasanthi Perera, 2012) categorization:

- The first category includes products and services such as ZipCar and Car 2 Go, where consumers pay a fee to access a shared resource, in this case, a car. Other examples of this category are toys, tools, handbags, jewelry, mobile phones and other resources that are commonly underutilized by their owners (Belk, 2014).

- The second category is redistribution markets where consumers themselves can exchange goods. Ebay, Craigslist, and Freally are examples of this category of collaborative consumption.

- The third category of collaborative consumption is collaborative lifestyles, where consumers band together to share and exchange fewer tangible assets such as time, space, skills and money. Examples on this category would be sharing parking spots platforms like ParkMe or accommodation ones, like Airbnb (Albinsson and Yasanthi Perera, 2012).

Under the threat of unsustainable consequences, Albinsson and Yasanthi Perera found that shared consumption is critical neutralizing models of individual consumption that lead to hyper-consumption. They claim that these movements have shed light and brought the attention of consumers to the consideration of the "whole" life of a product and its possibilities in terms of re-usage and the extension of its usefulness. They conclude that even if the new sharing business models arising in the marketplace are still a small part in the economy, a dialogue may be open about the sense of community and the implications to consumers, marketers and policy makers (Albinsson and Yasanthi Perera, 2012). "*The sharing economy has the potential to push a radical shift on economies toward sustainability, and it could be the next stage in the evolution of a fundamental restructuration of how economies work*" (Cohen and Kietzmann, 2014).

There is not a clear consensus on the definition of "collaborative consumption" in the literature. Belk (Belk, 2014) argues that the definition given by Bostman and Rogers (Botsman and Rogers, 2010) is too broad and not accurate because it mixes marketplace exchange, gift giving and sharing. For Bostman and Rogers, it covers traditional sharing,

bartering, lending, trading, renting, gifting, and swapping (Botsman and Rogers, 2010). However, Belk (Belk 2014) acknowledges their accuracy when they delineate the concept of collaborative consumption when they describe how Joe Gebbia, Brian Chesky, and Nathan Blecharcyzk conceptualized Airbnb.com, the application under study in this dissertation.

On a whiteboard in their apartment they drew a spectrum. On one side they wrote "hotels" and on the other they scribbled rental listings such as Craigslist, youth hostels, and nonmonetary travel exchanges such as CouchSurfing that help people travel by creating a network of couches available to sleep on for free (Botsman and Rogers, 2010).

Here, Bostman and Rogers (Botsman and Rogers, 2010) claim that Airbnb exemplifies collaborative consumption in that it includes people coordinating acquisition and distribution of a resource for a fee, however, Belk (Belk, 2014) extends this exemplification by adding *other compensation* to the fee as possible *payment methods* in the exchange. By including other compensation, the definition also encloses bartering, trading, and swapping, which involve giving and receiving non-monetary compensation. Belk (Belk, 2014) excludes CouchSurfing from this definition of collaborative consumption because compensation is prohibited on in this particular sharing platform. In this way, the collaborative consumption occupies a place between sharing and marketplace exchange with elements of both. Bardhi and Eckhardt (Bardhi and Eckhardt, 2012) extended this definition by adding that the ultimate goal of collaborative consumption is to get access to a resource temporarily, and pay for this access instead of owning the resource. They called this type of market-mediated consumption access-based consumption.

The success of sharing and access-based consumption platforms like Airbnb comes from consumers feeling that these new ways of consumption allow them to live the life they want without spending beyond their means. The economic collapse in 2008 sparked consumer´s psyche to constantly imagine the worst case scenario making consumers more price sensitive, and gave to the sharing and access-based consumption models the needed push to potentially share established industries (Belk, 2014). The European Commission supports this argument. Its Business Innovation Observatory contend that due to the economic crisis unemployment, rates have risen and purchasing power of consumers has dropped leading people to find ways to earn money and save money for their daily needs. Financial constraints make people more receptive for lending or sharing than they would otherwise be (European Commission, Business Innovation Observatory, 2013).

There are only a few traditional industries exempt from a potential disruptive change within the sharing economy, and Airbnb targeting the Hospitality Industry market is a good example of this. Airbnb is a Sharing Economy potentially disrupting two industries at the same time, the hospitality industry, and the housing industry. It facilitates a shift from individual ownership to short-term rental resulting in fewer purchases of residential houses and a reduction in the number of booking for the hotels (Boesler, 2013).

Incumbents and established industry's agents must monitor disruptive innovations, like the Sharing Economies and access-based consumption models, over time in order to assess the temporary anomaly vs. permanent threat that they may represent to their businesses.

2.7   Innovation Frameworks

This section introduces four frameworks built around innovation and market competitiveness. Each framework provides a different perspective on the different innovation paradigms, and uses various approaches to the identification and categorization of them.

1. Technology and Meaning Framework (Section 2.7.1)

2. Blue Ocean Strategy Framework (Section 2.7.2)

3. Porter's Five Forces Framework (Section 2.7.3)

4. Encroachment Framework (Section 2.7.4)

The criteria for the selection of these frameworks has been based on its relevance detected during the elaboration of the Chapter 2 Literature Review of this dissertation and the application feasibility to this Airbnb Case Study given the resources and time constraints of this dissertation.

The Technology and Meaning Framework focuses on the dimensions of innovation and establishes the relationship between them and its drivers. This link between the dimensions of innovation and its drivers allows the identification and differentiation of Sustaining or Incremental Innovations from Disruptive or Radical Innovations.

The Blue Ocean Strategy Framework aims to help in the identification of not yet exploited market spaces, defined by the opportunity for highly profitable growth, as per the definition of a Blue Ocean made by Kim and Mauborgne (Kim and Mauborgne, 2005). It is in the disruptive nature of Disruptive Innovations to look for these Blue Oceans, empty spaces where they can create new markets with no competitors in them. The Blue Ocean Strategy Framework provides tools to allow the analysis of a particular industry and identify the Blue Oceans in it.

The Porter's Five Forces Framework identifies the forces that determine the structural attractiveness of an industry. By looking at the combination of them, the Porter's Five Forces Framework serves as a tool to detect whether an innovation alters an industry structure or changes how the value is shared in that industry.

The Encroachment Framework focuses on how a new product encroaches, i.e. takes sales away from an incumbent product, thus having a negative impact on the incumbent product. By identifying the type of encroachment, and by analysing aspects of the product, like the price and attributes, the Encroachment Framework presents a categorization of innovations. This classification allows the mapping between the types of innovations identified to the diffusion pattern they follow in the marketplace.

Chapter 3 Methodology and Fieldwork of this paper presents these frameworks as part of the methodology that will be used in this research. Chapter 4 Findings and Analysis presents the application of these frameworks to the Sharing Economy under study in this dissertation, Airbnb, and the outcomes obtained after this process.

2.7.1 Technology and Meaning Framework

Norman and Verganti (Norman and Verganti, 2014) identified two dimensions of innovation, Technology and Meaning, and built a framework where they connect these two dimensions with the drivers of innovation, technology, design and market. The four quadrants of their framework help in distinguishing Sustaining or Incremental Innovations from Disruptive or Radical Innovations by defining four types of innovation:

1. *Technology-push innovation* comes from radical changes in technology without any change in the meaning of products. Technology-push innovation does not come from users.

2. *Meaning-driven innovation* starts from the comprehension of subtle and unspoken dynamics in socio-cultural models and results in radically new meanings and languages.

3. *Technology epiphanies* bring a radical change in meaning, enabled by the emergence of new technologies or the use of existing technologies in totally new contexts.

4. *Market-pull innovation* starts from an analysis of user needs and then develops products to satisfy them.
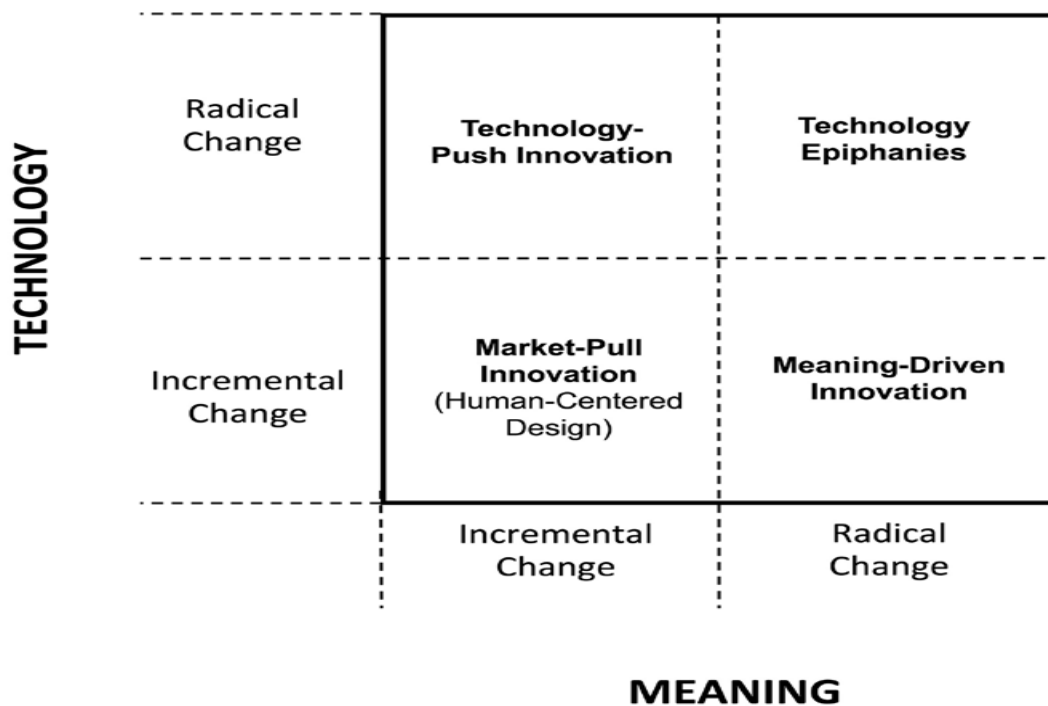
FIGURE 2.1 The two dimensions and four types of innovation (Norman and Verganti, 2014)

The categorization presented in Figure 2.1 shows that radical innovation is driven by two major factors: the development of a new enabling technology or the change in meaning of the product.

A good example of this is the Video Games. Sony with the Play Station, Microsoft with the Xbox, and Nintendo with the GameCube dominated the market of game consoles. Players of the games wanted better graphics and faster response times; therefore product innovation was targeted toward the creation of faster processors and higher quality graphics. Economically, this represented a huge effort for companies and eventually ended up in a battle between only the two largest companies, Microsoft and Sony. Figure 2.2 illustrates the developmental path of Video Games. When Sony and Microsoft were moving upward along the technology change dimension, Nintendo decided to follow a different path and instead focused on the meaning dimension. Nintendo developed games that were more playable and enjoyable for the less expert players. They took advantage of inexpensive technologies to make a major change in the meaning; they made the games for everyone. With the introduction of the Wii game console, Nintendo moved from the small niche segment of skilled experts to a wider market segment allowing families to play sports, exercise, and interact with one another without requiring expert skills. The Wii from Nintendo represents a clear example of a Disruptive Innovation because it redefined the playing field by combining a simple technology shift with a massive meaning shift. At that time, Sony and Microsoft had problems to catch up but few years later Microsoft responded with another Disruptive Innovation, the Kinect, which allows complete control of the game environment through body movement and gestures. In this case, Microsoft applied a radical technology change, the gesture recognition technology, to a meaning change and took video games to an entirely new way of interaction with gaming consoles.
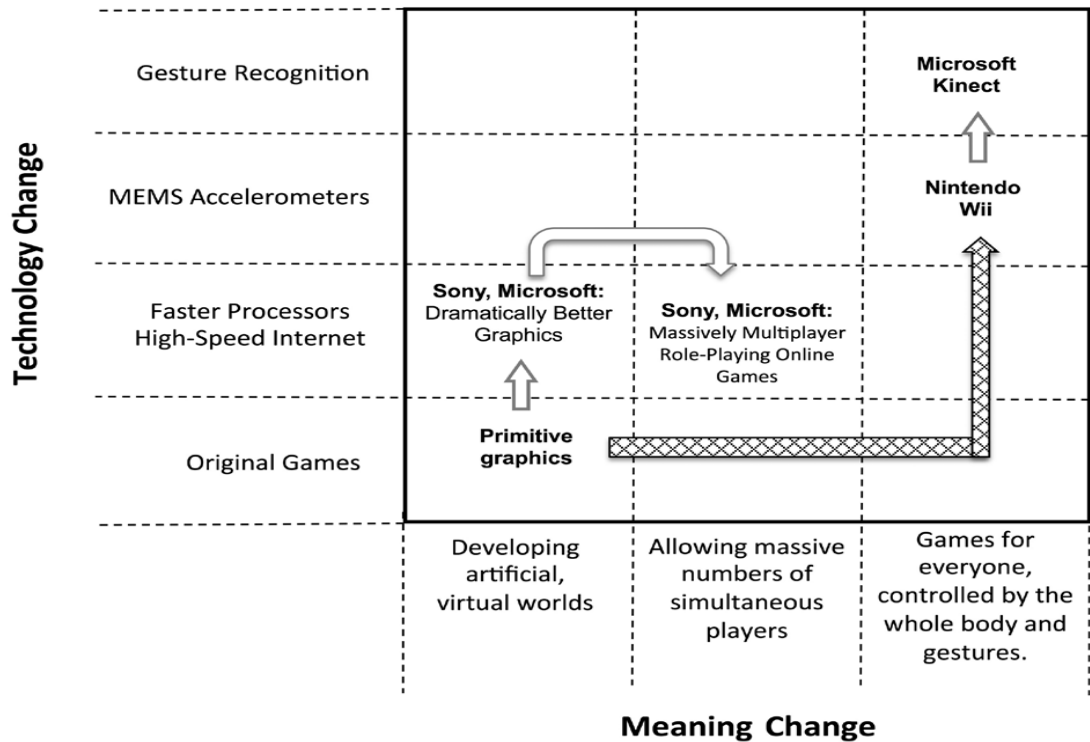
FIGURE 2.2 Viewing innovation in Video Game Consoles along the axes of Technology and Meaning change (Norman and Verganti, 2014)

2.7.2 Blue Ocean Strategy Framework

Blue Ocean Strategy is a term derived from the book "Blue Ocean Strategy" (Kim and Mauborgne, 2005) that describes how businesses fight against each other for a share of the marketplace when instead, they should be looking to compete with no one in marketplaces free of competitors. Kim and Mauborgne (Kim and Mauborgne, 2005) define two imaginary sorts of oceans: *Red Oceans* and *Blue Oceans*. Red Oceans represent the known market space with all the industries in existence today. In contrast, Blue Oceans denote all the industries not in existence today, in other words, the unknown market space.

In the red oceans, industry boundaries are defined, and the competitive rules of the game are well known by all competitors. They use the term "Red" because the cutthroat competition in this ocean turns it red bloody. Blue Oceans, in contrast, are not yet exploited market spaces, defined by the opportunity for highly profitable growth. Here, the term "Blue" is used to describe the potential of a vast and not yet explored market space, where competition is irrelevant because the rules are yet to be defined. Most of the Blue Oceans are created from within Red Oceans by expanding existing industry boundaries. In the context of the two types of innovations discussed in this dissertation, Red Oceans would represent the Sustaining or Incremental Innovations; Blue Oceans would represent the Disruptive or Radical Innovations.

Blue Ocean - The Four Actions Framework

Kim and Mauborgne (Kim and Mauborgne, 2005) identified the following four actions to challenge an industry's strategic logic to create a new value curve for consumers:

1. The first question forces a company to consider eliminating factors that companies in an industry have long competed on. Often those factors are taken for granted even though they no longer have value.

2. The second question forces a company to determine whether products or services have been over-designed in the race to match and beat the competition.

3. The third question pushes a company to uncover and eliminate the compromises industry forces customers to make.

4. The fourth question helps a company to discover entirely new sources of value for buyers and to create new demand and shift the strategic pricing of the industry.
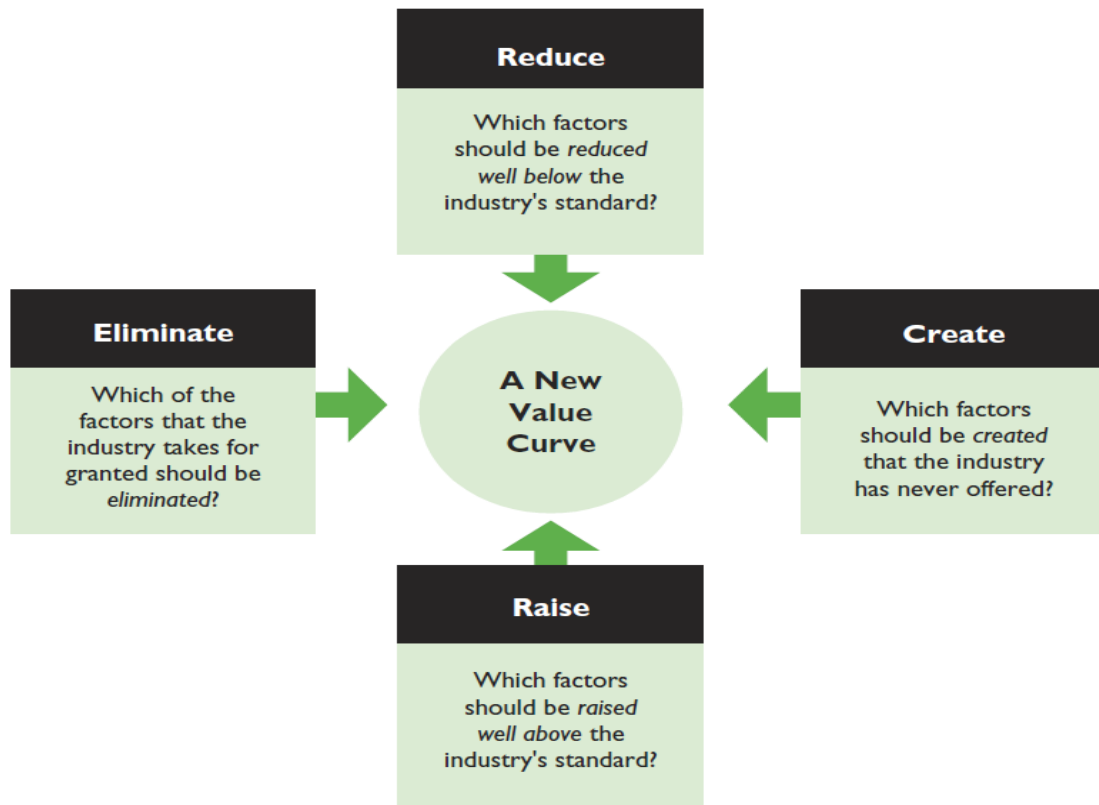
FIGURE 2.3 The Four Actions Framework (Kim and Mauborgne, 2005)

Blue Ocean - The Eliminate-Reduce-Raise-Create Grid

Supplementary to the four actions framework, Kim and Mauborgne (Kim and Mauborgne, 2005) provided an analytic tool called the *eliminate-reduce-raise-create grid*. Companies must fill the grid with the actions of eliminating and reducing as well as raising and creating. This grid is meant to push to act on all four to create a new value curve and provides companies with four immediate benefits:

1. It pursues differentiation and low costs to break the value/cost trade-off.

2. It flags companies that are focused only on raising and creating and thereby lifting their cost structure.

3. Managers at any level easily understand it.

4. It drives companies to scrutinize robustly every factor the industry competes on.

2.7.3 Porter's Five Forces Framework

The Porter's Five Forces Framework (Porter, 1985) is a management tool developed by professor and researcher Michael Porter to analyse an industry or sector through the identification and analysis of five forces in it. The model allows knowing the degree of competition in an industry and, in the case of a company within it, performing an external analysis to formulate strategies to exploit opportunities and face the identified threats.

The Porter's Five Forces are:

1.   Rivalry among existing competitors.

2.   Threat of new competitors.

3.   Threat of substitute products or services.

4.   Bargaining power of suppliers.

5.   Bargaining power of consumers.

According to Porter, these five forces determine the structural attractiveness of an industry. The combination of them provides a view of how the economic value created by a product, service or technology is divided between the companies in an industry, but also depicts how that value is divided among customers, suppliers, substitutes and potential new competitors.

Within this framework, this dissertation can conclude that an innovation is disruptive if and only if it fundamentally alters the overall industry structure in which the companies operate, or significantly changes how value is shared in that industry.

2.7.4 Encroachment Framework

The term encroachment denotes the phenomenon that happens when a new product takes sales away from an incumbent product. This means that the new product has a negative impact on the profitability of the incumbent product, whether the same firm or a competitor markets the incumbent product. Schmidt and Porteus (Schmidt and Porteus, 2000) identify two ways in which encroachment can occur:

- High-end encroachment: the new product appeals to the old product's key existing high-end customers. These customers have the highest reservation prices. The reservation price is the most that a customer is willing to pay for a product.

- Low-end encroachment: occurs when the new product is ignored by the best customers but instead attracts fringe or low-end customers.

To encroach, the new product must be superior with regard to one or more of the following three factors (Schmidt and van der Rhee, 2014):

- Price: is what the customer has to pay to obtain the product. Very often, a lower price leads to more sales given that each customer has a reservation price, and the customer buys the product when the sale price falls below his reservation price.

- Attributes: refer to all those things that make a product desirable. There are two types of attributes – the core attributes and the ancillary attributes. The core attributes are things that the product must have, and that all customers appreciate. The ancillary attributes describe what the product is also able to do or deliver beyond the core capabilities of the product.

- Attribute Performance: describes how well the product performs on the various attribute dimensions; it describes the quality of that attribute.
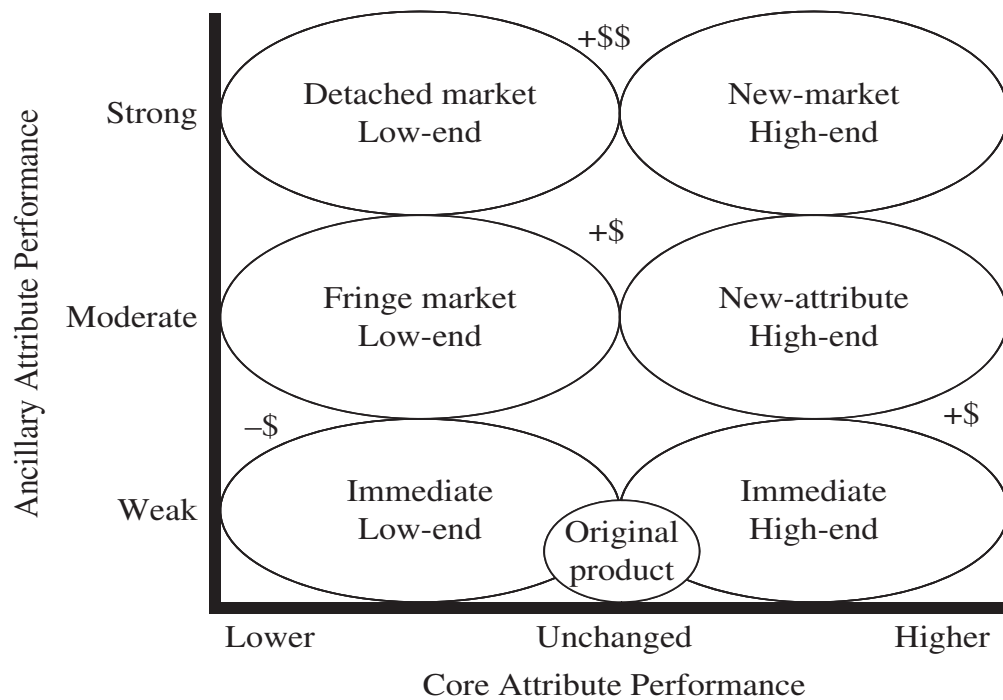
FIGURE 2.4 Encroachment Type as Determined by New Product Performance on Core and New Attribute Dimensions (Van Orden, Van der Rhee and Schmidt, 2011)

The framework represented in Figure 2.4 extends the previous work of Schmidt and Porteus (Schmidt and Porteus, 2000), and depicts the performance of a product or service along the core and ancillary attribute dimension to market outcomes over time, defining six types of encroachment patterns that the product or service can experience.

In this framework, the core attribute determines whether the new product encroaches from the low-end or the high-end, while the impact of the ancillary attribute, if there is any, determines the type of encroachment, which can be immediate, fringe/new attribute, or new/detached market.   Table 2.2 Mapping of the Type of Innovation to the Type of Diffusion, maps the six different types of encroachment and their definitions to the types of innovations (Van Orden, Van der Rhee and Schmidt, 2011).

TABLE 2.2 Mapping of the Type of Innovation to the Type of Diffusion (Van Orden, Van der Rhee and Schmidt, 2011)

Type of Innovation	Type of Diffusion to Which It Maps	Description	Examples
Sustaining innovation	High-end encroachment	The new product first encroaches on the high end of the existing market, and then diffuses downward.	
New-market disruption	New market high-end encroachment	These products create new market space, and encroach after a monopoly period.	TiVo (relative to VCRs)
	New attribute high-end encroachment	These products open up additional high-end market space in addition to encroaching on current products.	Air Zoom M9 cleats (relative to regular cleats)
High-end disruption	Immediate high-end encroachment	High-end encroachment begins immediately upon introduction of the new product.	IntelliMouse (relative to normal computer mice)
Disruptive innovation	Low-end encroachment	The new product first encroaches on the low end of the existing market, and then diffuses upward.	
New-market disruption	Detached-market low-end encroachment	Before encroachment begins, the new product opens up a detached market.	Cell phones (relative to land lines)
	Fringe-market low-end encroachment	Before encroachment begins, the new product opens up a fringe market.	5.25-inch disk drive (relative to 8-inch)
Low-end disruption	Immediate low-end encroachment	Low-end encroachment begins immediately upon introduction of the new product.	Discount retailer (relative to high-end retailer)

2.8   Conclusions

This chapter has reviewed literature related to the two different types of innovation paradigms, Disruptive or Radical Innovations and Sustaining or Incremental Innovations. This chapter has also presented the ways in which they complement one another and why both types of innovation are necessary for a competitive market.

Furthermore, this chapter has reviewed the literature related to Sharing Economies and how they aim to change the way in that people use the available resources. It is patent after the review of the existing materials that there is a shift in people's mindset from a resource ownership model to an access-based consumption model. In these days, there is a tendency in consumer's psyche to imagine the worse case scenario, which serves in some way as the necessary fuel for these new business models to penetrate in the

existing markets, as Matthew Boesler (Boesler, 2013) argues in his article in the Business Insider newspaper referencing the opinion of the market strategists at ConvergEx Group, an agency focused on global brokerage and trading services.

This literature review has introduced four valid Innovations Frameworks in these days. Each framework applies a different perspective to the innovation arena, but the four of them seek the same thing, the detection of new value curves in the existing market and the identification of new unexplored markets where companies can enter and find less competition.

The elaboration of this literature review has revealed a gap in the academic research related to the study of the relations between Sharing Economies and Disruptive or Radical Innovations. Moreover, no academic literature has been found related to how Airbnb may be impacting the THI in Ireland, or whether it has the potential enough to be considered a Disruptive Innovation in the hospitality industry due to its business model. It is the purpose of this paper to research in that space to provide an answer to the research question.

3   Methodology and Fieldwork

3.1   Introduction

The purpose of this chapter is to discuss and describe the methodological approaches considered for this Case Study. This chapter also presents the rationale for the selected relevant research methodologies, and describes how the research strategy was implemented using data collection methods. The process of selection of the adequate research methodology for this dissertation has been based on the research 'onion' model shown in Figure 3.1. An accurate and clear description of the methodology used in this dissertation will allow the generation of findings and conclusions. This chapter will also discuss the perceived limitations and lessons learned during the process.
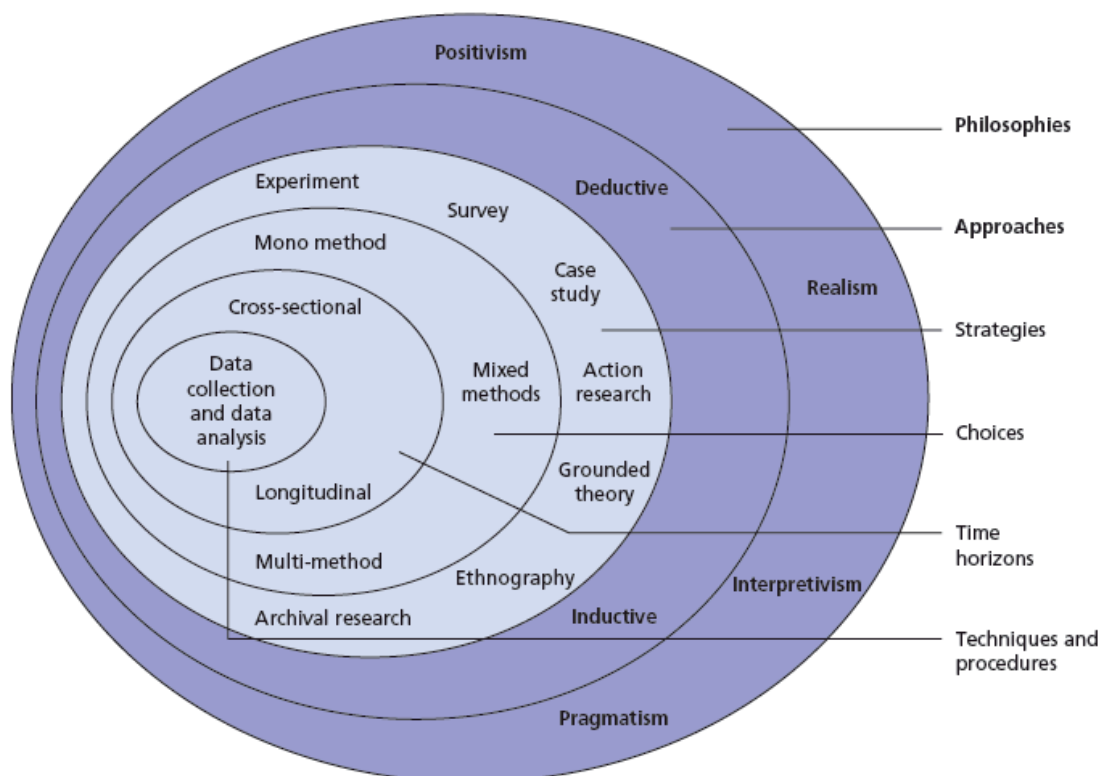

FIGURE 3.1 The research 'onion' Mark Saunders, Philip Lewis and Adrian Thornhill 2011

3.2   Research Philosophies

As per Saunders et al. (Saunders, Lewis and Thornhill, 2012) description, research philosophy relates to "the development of knowledge and the nature of that knowledge". Saunders et al. also argues that is inevitable to make assumptions at any stage of the research process. These assumptions about human knowledge and the nature of the reality found during the research process shape the way in that the researchers understand the research questions (Saunders, Lewis and Thornhill, 2012). In this same sense, Saunders et al. states that the philosophy adopted by the researcher will be influenced by the particular researcher's view of what is acceptable knowledge and the process by which that knowledge is developed as well as practical considerations.

3.2.1 Ontology

Ontology is a branch of metaphysics concerned with the nature of reality (Saunders, Lewis and Thornhill, 2012) and with the identification of the kind of things that exist. The two main aspects of ontology are objectivism and subjectivism.

- **Objectivism:** Saunders et al. (Saunders, Lewis and Thornhill, 2012) affirms that objectivism represents a position that social entities exist in a reality independently of social actors and their consciousness about that reality. The name "Objectivism" comes from the belief that human knowledge and values exist and are determined by the nature of the reality and more importantly they are mind-independent.

- **Subjectivism:** As opposed to objectivism, subjectivism asserts that social phenomena as arises from the perceptions and subsequent actions of the social actors concerned with their existence (Saunders, Lewis and Thornhill, 2012). The

continuous social interactions between actors make social phenomena be subject to constant change. Because of this, the proper analysis and study of the situation is paramount to understand the reality.

3.2.2 Epistemology

"Epistemology concerns what constitutes acceptable knowledge in a field of study" (Saunders, Lewis and Thornhill, 2012). Epistemology refers to ways of knowing and how to understand the reality through three main philosophical paradigms. These philosophical paradigms are positivism, interpretivism, and realism.

- **Positivism:** Is a philosophical current in which that takes a natural scientific approach to the development of knowledge. Saunders et al. cites Gill and Johnson (Gill and Johnson, 2010) to ratify that when applying this philosophical position, the researcher focuses on collecting data about observable reality and search for relationships and regularities on it. By doing so, the researcher's goal is to create law-like generalizations, in the same way that scientists do. The researcher only uses phenomena that he can observe as this is the only way of producing credible data. Saunders et al. (Saunders, Lewis and Thornhill, 2012) gives particular importance to the fact that under a positivist approach is that the research is initiated in a value-free way. This means that the researcher must be external to the process of data collection to not alter the substance of the data collected. Here, Crotty (Crotty, 1998) argues that very rarely happens that the outcome can be considered totally objective and certain. During the phase of observation of the Airbnb website and the analysis of the data collected, this research adopts this philosophical approach to produce a highly structured

methodology that will facilitate replication in the future. The quantifiable observations of the Airbnb site will lead to a statistical analysis.

- **Realism**: Realism believes that objects exist independent of anyone's beliefs, linguistic practices, conceptual schemes, and so on (Stanford University, 2002). The reality has an existence independent of the human mind (Saunders, Lewis and Thornhill, 2012), and assumes a scientific approach to the development of knowledge like the positivism does.

- **Interpretivism**: When taking philosophical approach, Saunders et al. (Saunders, Lewis and Thornhill, 2012) affirms that is key that the researcher to understand the differences between humans in their role as social actors. Saunders et al. put special focus in the fact that there is a significant difference between researching among people and researching about an object. In the interpretivist approach, the focus is set into the social actors, and the researcher has to take an empathetic stance entering the social world of the research subject and understanding it from its point of view. This philosophical approach has deemed appropriate for this research when Airbnb will be analysed inside the four Innovation Frameworks described in the Section 2.2.1 of the Chapter 2 Literature Review of this paper.

This research will be conducted by building a Case Study strategy with a mixed-method methodology. This mixed-method methodology will be used complement a qualitative analysis carried out on the potential disruptive nature of Airbnb with a quantitative analysis performed on a dataset collected through the observation of the Airbnb website during three months and an accommodation capacity dataset obtained from Fáilte Ireland for the Republic of Ireland. Due to the nature of this research methodology, both positivism and

interpretivism epistemologies will be applied in this research. Positivism will help to understand the problem studied in this research during the observation of the Airbnb website for three months and the subsequent analysis of the dataset obtained in this observation. In the other hand, interpretivism will help in analysing the Airbnb business model and its potential disruptiveness within four Innovation Frameworks, but it will also assist in the interpretation of the outcomes and the validity of these frameworks when they are applied to the subject under study.

3.3   Research Approaches

Based on the reasoning adopted in the research, there are two approaches that can be taken during the design of the research project, deductive reasoning and inductive reasoning. At this point, it is important for the researcher to be clear about the theory during the design process, as it will dictate the most suitable research approach for the research (Saunders, Lewis and Thornhill, 2012).

3.3.1 Deductive approach

It could be argued that Deductive Reasoning shares many characteristics with the scientific research. In a deductive approach, a theory is developed to test it then through a series of propositions with the ultimate goal of deducing conclusions. Because of this, it is the dominant research approach in the natural sciences. Deductive Reasoning is characterized by searching to explain causal relationships between variables as well as by enabling facts to be measured in a quantitative way. No less important is that Deductive Reasoning allows generalization, but for this, the sample must be of a sufficient size and must be correctly selected (Saunders, Lewis and Thornhill, 2012). The deductive

approach constructs a structured and rigid methodology to allow replication and ensure reliability.

A deductive approach has been considered the most suited approach at the observation of Airbnb stage of this research. The application of a deductive approach to the analysis of the dataset collected will help on answering to the research question of this dissertation, allowing a quantitative measure of the impact of Airbnb in the Republic of Ireland.

3.3.2 Inductive approach

The purpose of Inductive Reasoning is to get a feel of the reality to understand better the nature of a problem to formulate ultimately a theory based on observations of a problem. Inductive Reasoning suits the study of social sciences better than Deductive Reasoning does. This is because Deductive Reasoning approaches the cause-effect link without considering the way in which humans interpret their social world and their behaviours (Saunders, Lewis and Thornhill, 2012). The inductive approach starts with no theory at the beginning of the research. Instead, it arises during the process of research and evolves during this process. In other words, Inductive Reasoning learns from experience. When a research by Inductive Reasoning approach is taken, the focus tends to be in the context of the problem under observation. As opposed to the deductive approach, the inductive approach is more flexible in the methodology and allows alternatives explanations of the problem under study.

Given that no evidence of any previous research carried out on the disruptive potential of Airbnb in the Republic of Ireland has been found, this research adopts the inductive approach to build knowledge from the analysis of Airbnb inside the four Innovation Frameworks selected in this research and to draw conclusions on the findings.

3.4   Research Method and Research Strategy

The research question that this dissertation aims to answer is "Is Airbnb disrupting the Traditional Hospitality Industry?"

Due to the nature of this research, where positivist and interpretivist epistemologies have been selected as two the philosophies to answer the research question, a mixed-method methodology is deemed to be the most suitable choice to carry out this research.

In one hand, this dissertation carries out a multimethod quantitative study on two different sets of data, one primary dataset and one secondary dataset. The primary data is an Airbnb dataset collected through the observation of the Airbnb website during three months, and the secondary dataset is the "Accommodation Capacity in Ireland 2015" (Fáilte Ireland, 2015) report published by Fáilte Ireland and available in the References Section of this dissertation. Fáilte Ireland is the National Tourism Development Authority, and its primary role is to support the tourism industry and keep Ireland competitive as a tourist destination. Fáilte Ireland provides support to tourism businesses in Ireland to help them in the management of their products and services and focus on promoting Ireland as an international holiday destination through their marketing campaign DiscoverIreland.ie. (Fáilte Ireland, 2015)

In the other hand, this dissertation presents a qualitative analysis of Airbnb from the point of view of Innovation, and more specifically from the point of view of Disruptive Innovations. To carry out this analysis, a set of four Innovation Frameworks has been selected as presented in Chapter 2 Literature Review of this dissertation.

1. Technology and Meaning Framework
2. Blue Ocean Strategy Framework

3. Porter's Five Forces Framework

4. Encroachment Framework

The qualitative analysis of Airbnb in each of these four frameworks aims to provide a better view on whether Airbnb can be considered a Disruptive Innovation, and if so, provide arguments to support this affirmation. A potential output of this qualitative analysis will be to assess the suitability of these frameworks when they are applied to non-traditional business models, like Airbnb and the Sharing Economy model in general.

The timing of this research, and the fact that this research uses both quantitative and qualitative methods, leads to take a concurrent mixed methods research design, where both sets of results, quantitative and qualitative, will be interpreted together to provide a more comprehensive response to the research question.

The ultimate rationale behind performing both quantitative and qualitative analysis in this research in a mixed method design is complementarity, and it will help on the interpretation of the results obtained in the qualitative analysis of Airbnb in the Innovation Frameworks. The quantitative results obtained from the analysis of the Airbnb dataset together with the Fáilte Ireland "Accommodation Capacity in Ireland 2015" (Fáilte Ireland, 2015) dataset will serve as an extra input to the qualitative analysis of Airbnb in the Innovation Frameworks. Another aspect that the mixed method design of this research aims to extend is diversity, providing different views on the same subject under study, Airbnb.

It has been identified during the elaboration of the methodology of this research the importance of the context when carrying out an study on Airbnb. Saunders et al. (Saunders, Lewis and Thornhill, 2012) argues that in cases where the phenomenon being

studied and the context within which its studied are not well defined the research strategy that suits best is the Case Study.

Because of this, the exploratory nature of this research, and the flexibility that this strategy provides, a Case Study strategy has deemed to be the most suited one for this research.

3.4.1 Fáilte Ireland Dataset

The "Accommodation Capacity in Ireland 2015" (Fáilte Ireland, 2015) report published by the National Tourism Development Authority of Ireland, Fáilte Ireland, is a secondary data source that will serve to establish the relationship between the volume of rooms provided by Airbnb and the volume of rooms provided by the THI in the Republic of Ireland. The "Accommodation Capacity in Ireland 2015" (Fáilte Ireland, 2015) report published by Fáilte Ireland shows numbers for six different types of accommodations:

1. Hotels

2. Guesthouses

3. Bed and Breakfasts

4. Self-catering Properties

5. Caravan and Campsites

6. Hostels

This research has only used the data published in the report for Hostels, Guesthouses and Bed & Breakfasts. The rationale for this decision is the perception that they are the three categories that match the type of accommodation that Airbnb offers on the Airbnb platform, and also what the average Airbnb user looks for when making use of the Airbnb platform services. The "Accommodation Capacity in Ireland 2015" (Fáilte Ireland, 2015) report disaggregates the information by County, which will provide an appropriate level of granularity when this data will be analysed in the Chapter 4 Data Analysis and Findings of

this dissertation. Furthermore, the data provides granularity to the level of Premises, Rooms and Beds adding the necessary level of detail when this dataset will be compared to the dataset obtained from the Airbnb website.

3.4.2 Airbnb Listings Dataset

A quantitative research will be carried out on primary data gathered from the Airbnb website. To extract the data from the Airbnb website, it has been used a data extraction technique called Web Scraping.

Web Scraping, also known as Web Harvesting or Web Data Extraction, is "the process of extracting large amounts of information from a website. This may involve downloading several web pages or the entire site. The downloaded content may include just the text from the pages, the full HTML, or both the HTML and images from each page" (TechTerms.com, 2011). The rationale behind the use of this technique in this dissertation is the absence of any public Application Programming Interface (API) provided by Airbnb to allow third-parties to access to their data. No sources of primary data supplied by Airbnb have been found to use in this dissertation. After carrying out this research, it could be argued that Airbnb is very protective of the information that can be gathered related to its day to day activities, volume of listings, and bookings happening on its website.

Airbnb Web Scraping Tool design

The Airbnb Web Scraping Tool is a custom tool developed specifically for this research to harvest the available data, search results and listings, from the Airbnb website. It has been developed in Java programming language, and it has been written on top of an open-source data extraction and HTML manipulation library. The library selected for this

HTML manipulation is JSoup (Hedley, 2009) due to its ease of use and fast learning curve, as well as the smooth integration with the Airbnb Web Scraping Tool.

Airbnb Web Scraping Tool configuration

The Airbnb Web Scraping Tool is fed with configuration data every time is executed. The three main configuration parameters define the scope of the search. These configuration parameters are:

- *Check-in date*: Starting date of the booking.

- *Check-out date*: Ending date of the booking.

- *List of Counties in the Republic of Ireland*: To allow a proper granularity on the data analysis phase of this dissertation, the level of aggregation of the searches has been set to County level.

  ANTRIM – ARMAGH – CARLOW – CAVAN – CLARE – CORK – DONEGAL – DOWN – DUBLIN – FERMANAGH – GALWAY – KERRY – KILDARE – KILKENNY – LAOIS – LEITRIM – LIMERICK – LONDONDERRY – LONGFORD – MAYO – MEATH – MONAGHAN – OFFALY – ROSCOMMON – SLIGO – TIPPERARY – TYRONE – WATERFORD – WESTMEATH – WEXFORD – WICKLOW

Airbnb Web Scraping Tool operation

The Airbnb Web Scraping Tool has been designed to be simple to reduce the maintenance of the tool to the minimum during the time it has been executed to extract data from the Airbnb website.

By using the JSoup library, the Airbnb Web Scraping Tool performs a request to the Airbnb website domain for Ireland, https://www.airbnb.ie, appending to this Uniform Resource Locator (URL) the parameters that define the Location (County), the Check-in date and the Check-out date for a given search request. Note here that there is no
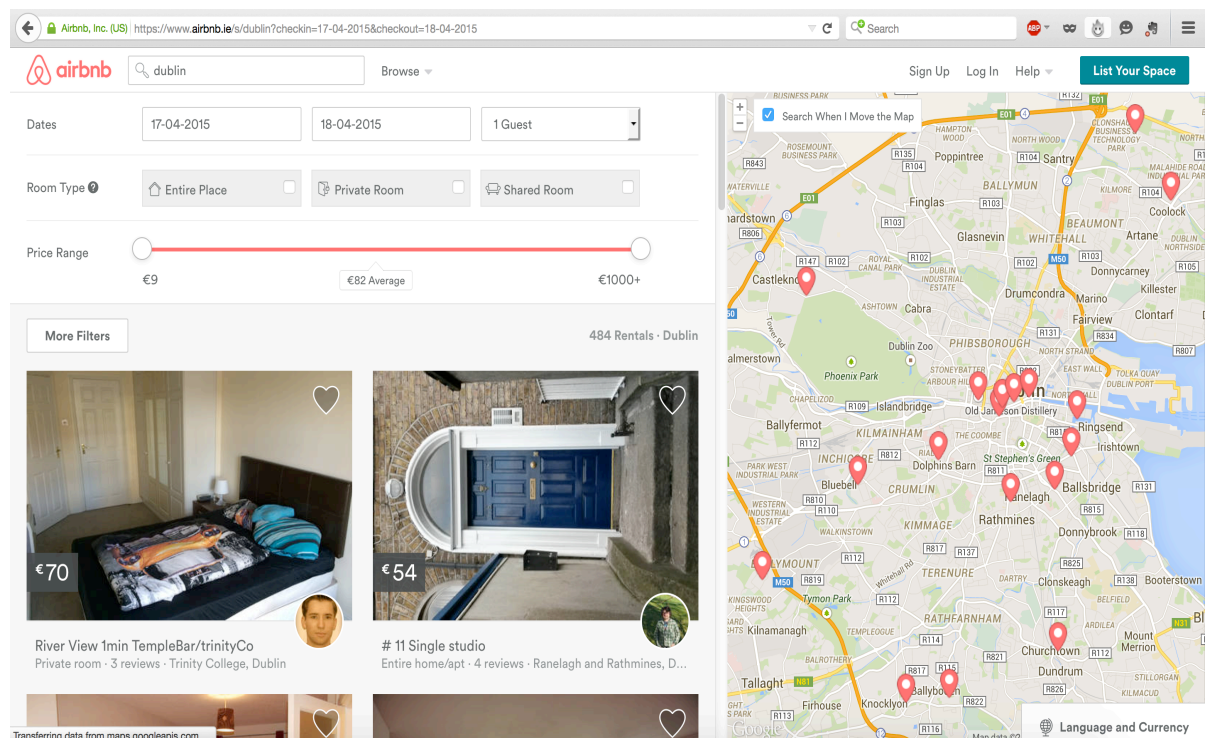
difference in the set of results obtained when the search is made through the URL https://www.airbnb.com, the U.S. domain, compared to the set of results obtained when the request is made through the Ireland's domain https://www.airbnb.ie. The Airbnb website returns the same set of results for the same search parameters independently of the URL used to perform the search.

An example of the URL for a listing search for the city of Dublin with a Check-in date of 17th of April of 2015 and a Check-out date of 18th of April of 2015 would be as follows: https://www.airbnb.ie/s/dublin?checkin=17-04-2015&checkout=18-04-2015

The results page obtained by hitting that URL are shown in Figure 3.2.

FIGURE 3.2 Airbnb search results page example (top)

The page shown in Figure 3.2 is a graphical representation of the results for the request in the form of a user interface built by the Web Browser, Firefox version 37.0.1 in this case, to let the user interact with the web application. The actual content sent by the Airbnb website in response to the request made to the URL is HTML code. Figure 3.3 shows an extract of the HTML code returned for a given search, and shows the relevant data that identifies a listing unambiguously in the Airbnb platform. To extract the data of the listings from a search results page, the Airbnb Web Scraping Tool parses the entire HTML source code of the page seeking for "div" elements of class "listing" as it has been identified to be the particular class used to define the listings in the HTML response sent to the browser doing the request. Four attributes of a "div" element provide sufficient data to the tool to parse a unique listing and retrieve the associated HTML source code:

- *data-url="/rooms/2674181?checkin=17-04-2015&checkout=18-04-2015&s=JjM1":* URL pointing to the page of the listing in the Airbnb website domain.

- data-user="13647581": Unique user id assigned to the host of the listing in the Airbnb website domain.

- data-id="2674181": Unique listing id assigned to the listing in the Airbnb website domain.

- class="listing": HTML class assigned to all "div" elements representing a listing on the search results page.

```
<div class = "outer-listings-container row-space-5 row-space-2-sm">
  <div class="row listings-container">
<div class="col-sm-12 col-md-6 row-space-2">
  <div data-lat="53.34805256708817"
       data-lng="-6.25628784222729"
       data-name="River View 1min TempleBar/trinityCo"
       data-url="/rooms/2674181?checkin=17-04-2015&amp;checkout=18-04-2015&amp;s=JjM1"
       data-user="13647581"
       data-id="2674181"
       data-price="&euro;70"
       class="listing"
       itemscope itemtype="http://schema.org/Enumeration">

    <div class="panel-image listing-img">
      <a href="/rooms/2674181?checkin=17-04-2015&amp;checkout=18-04-2015&amp;s=JjM1" target="listing_2674181" class="media-photo
        <div class="listing-img-container media-cover text-center">
          <img itemprop="image" data-current="0" src="https://a1.muscache.com/ic/pictures/34996995/ad78f302_original.jpg?interpol
        </div>
      </a>

      <div class="target-prev target-control block-link">
        <i class="icon icon-chevron-left icon-size-2 icon-white"></i>
      </div>

      <div class="panel-overlay-bottom-left panel-overlay-label panel-overlay-listing-label">
        <div>
          <sup class="h6 text-contrast">&euro;</sup>
          <span class="h3 price-amount">70</span>
          <sup class="h6 text-contrast"></sup>
        </div>
      </div>

    </div>

      <div class="target-next target-control block-link">
```

FIGURE 3.3 Airbnb search results page example HTML extract

Airbnb website shows up to a maximum of eighteen listings per page in a results page. For each listing in a results page, the Airbnb Web Scraping Tool takes the "data-url" attribute of the listing to build a new URL by appending it to the Airbnb website domain. This new URL points to the page hosting the listing in the Airbnb website domain, for example, https://www.airbnb.ie/rooms/3735283?checkin=17-04-2015&checkout=18-04-2015. This page contains all the information that describes the listing on the Airbnb website and includes a description of the place, the location, the list of the amenities available in the listing, an introduction and a link to the profile of the host, the price and fees that may apply, pictures of the listing and the reviews made by other guests that have previously visited that same property. Figure 3.4 shows and example of a page associated to an Airbnb listing.

FIGURE 3.4 Airbnb listing page example

When the number of results returned for a particular search is bigger than the maximum number of results shown per page, eighteen, the Airbnb website response contains a pagination section at the bottom of the results page, displaying numbered links that point to the different pages of results for the search. The Airbnb Web Scraping Tool parses these links from the HTML response and iterates over all of them, processing the listings on each page of results in the same way it does on the first page of results. Figure 3.5 shows the pagination links at the bottom of the first results page when a search request returns more than eighteen listings, i.e. more than one page with search results.

Figure 3.6 shows the second page of results for a search request returning more than eighteen listings. Note that the URL in the browser now presents a "page=2" string appended to the URL to specify the particular page that the request is for. This behaviour seen in the browser is the behaviour that the Airbnb Web Scraping Tool reproduces but adding the necessary automation to the process.
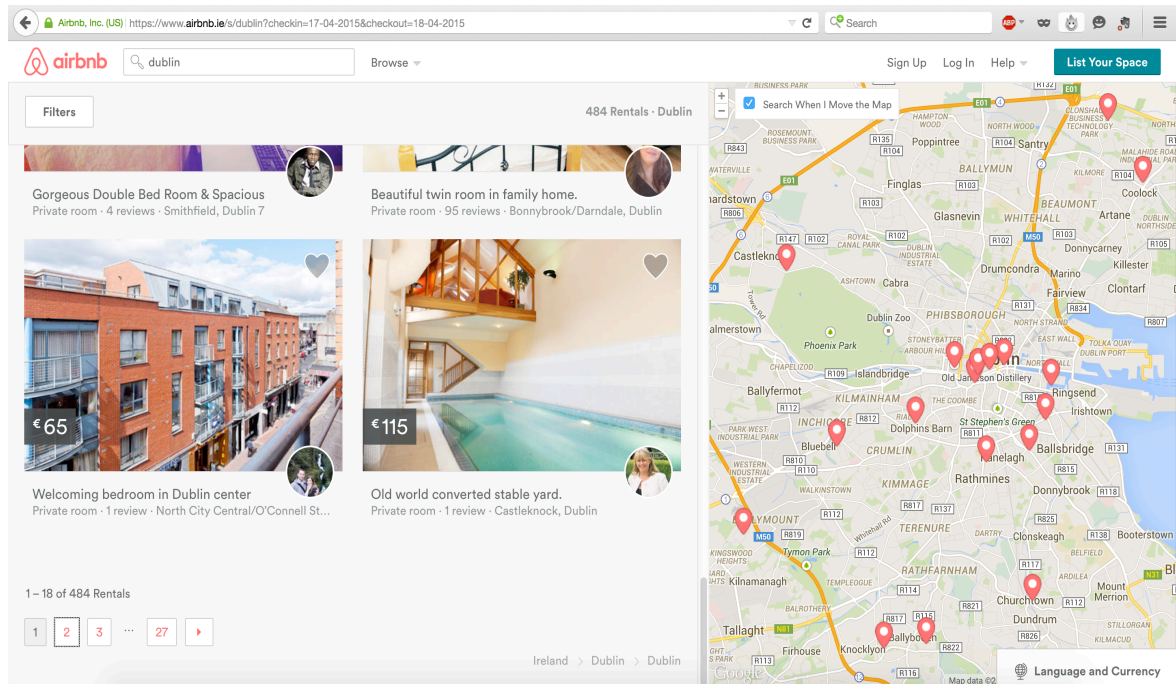
FIGURE 3.5 Airbnb search results page example (bottom)
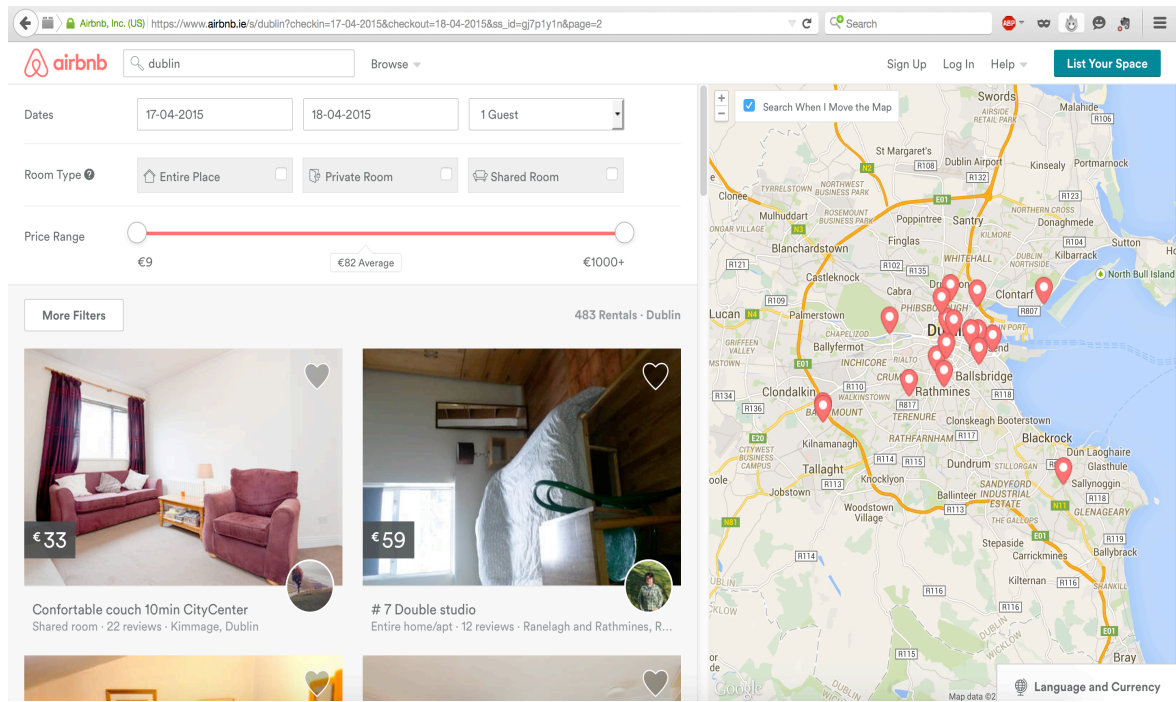
FIGURE 3.6 Airbnb search results page example (page 2 top)

Airbnb Web Scraping Tool execution time horizon

Even when the observation of the Airbnb website has been performed during a timeframe of three months, the time horizon of this research has been deemed to be cross-sectional as opposed to longitudinal as per Saunders et al. (Saunders, Lewis and Thornhill, 2012) classification. The purpose of the Airbnb website observation is to gather as many distinct listings and hosts from the platform to have an understanding of the growth and penetration of Airbnb since its inception in 2007. With no restrictions on the time available to carry out this research, this methodology could be modified to be longitudinal. Another reason to consider the cross-sectional time horizon more suitable for this research is the fact that the secondary dataset of the quantitative analysis of this research and the qualitative analysis of this research are both cross-sectional.

The goal of implementing the Airbnb Web Scraper Tool is to get the data associated to as many hosts and listings as possible to run an analysis on the volume and growth of Airbnb in the Republic of Ireland since its creation in 2007. To achieve this goal, the Airbnb Web Scraping Tool has been executed once a day from the 1st of January of 2015 to the 31st of March of 2015, the whole first quarter of 2015. This observation window has been set to only three months due to the limitations in the time and resources to carry out this dissertation. Every day during the observation window the Airbnb Web Scraping Tool has been executed to perform a search with the following configuration:

- Check-in date: the date of the day that the Airbnb Web Scraping Tool is executed.
- Check-out date: the date of the day after the Airbnb Web Scraping Tool is executed.
- List of Counties: the list of the 31 Counties of the Republic of Ireland.

The base URL to hit the Airbnb website has the following format. The URL contains three placeholders to allow the Airbnb Web Scraping Tool to replace them at execution time with the real values passed in the configuration parameters:

URL: https://www.airbnb.ie/s/%county%?checkin=%cin%&checkout=%cout%

- %county%: County of the Republic of Ireland the search is for.

- %cin%: Check-in date.

- %cout%: Check-out date.

Example: Assuming the current date were the 1st of January of 2015 the Airbnb Web Scraping Tool executed 31 different searches, one per County in the Republic of Ireland list of Counties, with a Check-in date of 1st of January of 2015 and a Check-out date of 2nd of January of 2015. The next day, on the 2nd of January of 2015, the tool executed 31 different searches, one per County in the Republic of Ireland list of Counties, with a Check-in date of 2nd of January of 2015 and a Check-out date of 3rd of January of 2015. The Airbnb Web Scraping Tool has repeated this same routine every day from the 1st of January of 2015 until the 31st of March of 2015.

Airbnb market penetration

The data collected from hosts and listings during the first quarter of 2015 will allow quantifying the spatiotemporal penetration of Airbnb in the Republic of Ireland in the Chapter 4 Data Analysis and Findings of this dissertation. Airbnb does not provide any information about the bookings or transactions made by individuals in its website. Several ways of detecting bookings on the Airbnb website were studied but they were considered to be based on unacceptable assumptions, being the most accurate one a methodology based on counting the number of reviews made by guests for a given listing. Even when this methodology would have provided real numbers of bookings occurring on the Airbnb

website, it would not be reliable enough due to the fact that Airbnb does not oblige guests to do a review of a listing after a booking happens.

Instead, this dissertation proposes a different mechanism to identify and measure the penetration of Airbnb in the Republic of Ireland. For a given point in time, the penetration is defined as the number of distinct Airbnb hosts that have cumulatively signed up in the Airbnb website up to that point in time. The date in which a host signed up in the Airbnb site can be extracted for each listing by retrieving it from the profile of the host. This type of measure has been applied previously by other academic researchers to analyse the impact and penetration of Airbnb in Boston (Zervas, Proserpio and Byers, 2015) and also other online sharing economies like Craigslist's and its effects on the Local Newspapers (Seamans and Zhu, 2013).

Airbnb Web Scraping Tool data persistence

For each execution, the Airbnb Web Scraping Tool has persisted the data collected to two different locations, to a MySQL Server database but also to a disk in order to ensure the persistence of the data, and protect it in case of any catastrophic event, like the database getting corrupted at some point during the elaboration of this research. During the data collection phase of this research, it has been deemed useful to persist as much data as possible, the result pages returned as result of the multiple searches and also the individual pages for each listing to allow a detailed analysis.

3.4.3 Innovation Frameworks

This section of the methodology chapter aims to present the interpretative part of this research, where Airbnb will be qualitatively analysed within four Innovation Frameworks to test its disruptiveness as an innovation in the Hospitality Industry segment. This analysis will be undertaken by collecting a variety of secondary data available from different sources. More in particular, the data collected for this section of this research is documentary secondary data as per Saunders et al. classification of types of secondary data used in research (Saunders, Lewis and Thornhill, 2012). The form of the secondary data collected is text data, and the sources considered given the limitations in the time available for this research are notices, newspapers, journals, reports, books, magazine articles, surveys, social networks, blogs and previous research materials on the topic.

During the elaboration of the Chapter 2 Literature Review of this dissertation, an extensive set of web-based materials has been compiled as part of the research on Airbnb, the Sharing Economy paradigm, and the Disruptive Innovation paradigm. These materials will serve in the Chapter 4 Findings and Analysis of this document as source of secondary data, and they will be complemented with new materials collected at this point in time of the process where deemed necessary to feed the Innovation Frameworks.

The following subsections cover each Innovation Framework, and describe the secondary data that will be needed to perform the qualitative analysis of Airbnb within them.

Technology and Meaning Framework

As it was presented in Section 2.7.1 of this dissertation, the Technology and Meaning Framework developed by Norman and Verganti (Norman and Verganti, 2014) identifies two dimensions of innovation, technology and meaning, and connects them with the drivers of innovation, technology, design and market. The four quadrants of their

framework help in distinguishing Sustaining or Incremental Innovations from Disruptive or Radical Innovations. To feed the four quadrants of the Technology and Meaning Framework, secondary data will be collected to support the following:

1. Radical Changes in Technology introduced o leveraged by Airbnb.

2. Incremental Changes in Technology introduced or leveraged by Airbnb.

3. Radical Changes in Meaning introduced or leveraged by Airbnb.

4. Incremental changes in Meaning introduced or leveraged by Airbnb.

The data collected for the four categories will be analysed in the context of the Technology and Meaning Framework matrix shown in Figure 2.1 where Norman and Verganti (Norman and Verganti, 2014) map the two dimensions of innovation to four possible types of innovation. This categorization of the data will help in the identification of changes, radical and incremental, that Airbnb has introduced in terms of technology and meaning. Following the criteria specified by Norman and Verganti (Norman and Verganti, 2014), this research will consider Airbnb to be a radical innovation if it has introduced a new enabling technology that improves significantly the interaction of users when they look for accommodations, or if Airbnb represents a paradigm shift in the way that users interact and make use of the hospitality services when compared to the THI.

Blue Ocean Strategy Framework

As it was presented in Section 2.7.2 of this research, the framework created by Kim and Mauborgne (Kim and Mauborgne, 2005) define two imaginary sort of oceans: Red Oceans and Blue Oceans. *Red Oceans* represent the known market space with all the industries in existence today. In contrast, *Blue Oceans* denote all the industries not in existence today, in other words, the unknown market space. These Blue Oceans are not yet exploited market spaces, defined by the opportunity for highly profitable growth. This

section will present the data that will be collected to analyse Airbnb within this framework. This research will consider Airbnb to be a Radical or Disruptive Innovation under the Blue Ocean Strategy Framework if the output of the analysis leads to the conclusion that Airbnb has created its own Blue Ocean as per Kim and Mauborgne classification.

Blue Ocean - The Four Actions Framework

Kim and Mauborgne (Kim and Mauborgne, 2005) identified four actions to challenge an industry's strategic logic to create a new value curve for consumers. When looking at the competitive factors in a given industry the following actions can be taken:

1. Eliminate them completely

2. Reduce the investment in them

3. Raise the investment in them

4. Create totally new factors.

To help with the sorting and tracking of the competitive factors, Kim and Mauborgne provided a tool called the Eliminate-Reduce-Raise-Create Grid.

FIGURE 3.7 Eliminate-Reduce-Raise-Create Grid (Blueoceanstrategy, 2015)

In this section of the methodology, data will be collected to feed the four quadrants of the Eliminate-Reduce-Raise-Create Grid. Secondary data will be collected to provide answers to the questions formulated in each quadrant of the Eliminate-Reduce-Raise-Create Grid as follows:

1. **Eliminate:**

    What factors has Airbnb eliminated that the THI has long competed on?

2. **Reduce:**

    What factors has Airbnb reduced well below the THI's standard?

3. **Raise:**

    What factors has Airbnb raised well above the THI's standard?

4. **Create:**

    What factors and values has Airbnb created that the THI has never offered?

    Has Airbnb created a new demand or a shift in the strategic pricing of the hospitality services?

Porter's Five Forces Framework

Section 2.7.3 of this dissertation presents the Porter's Five Forces Framework (Porter, 1985). This framework helps on the analysis of an industry by looking at five different forces present in that industry. An analysis within the Porter's Five Forces Framework allows knowing the degree of competition in an industry and, in the case of a company within it, performing an external analysis to formulate strategies to exploit opportunities and face the identified threats. In this way, running an analysis of Airbnb within the Porter's Five Forces Framework will identify where power and strength resides in the business model implemented by Airbnb. For this purpose, secondary data will be collected to assess each of the five forces presented in this framework when applied to Airbnb.

The analysis of the data collected will aim to give responses to the following questions grouped by the force they belong to in the Porter's Five Forces Framework:

1. **Rivalry among existing competitors.**

   Are the Airbnb competitors numerous?

   What is the level of innovation capability required to compete with Airbnb?

   Do Airbnb competitors have a sustainable competitive advantage?

   Is the brand loyalty significant in the Hospitality Industry?

   Are the fixed costs high in the Hospitality Industry?

2. **Threat of new competitors.**

   What are the barriers to entry for Airbnb competitors?

   Are there patents, Airbnb proprietary technologies, which would act as a barrier to entry for an Airbnb competitor?

   How easy is to achieve economies of scale within the Airbnb's business model?

   What would be the consumer switching cost to an Airbnb competitor?

   Is Airbnb a well-known brand in the market?

   Are Airbnb services highly differentiated from the competitors and the THI?

   Would an Airbnb competitor expect retaliation from the THI incumbents?

3. **Threat of substitute products or services.**

   What is the consumer's willingness to use a substitute for Airbnb?

   What is the switching cost for the Airbnb consumer?

   What is the Airbnb's quality performance compared to substitutes?

4. **Bargaining power of suppliers:**

    Is the number of competitors of Airbnb significant in the market to allow suppliers to switch to a competitor?

    What is the value brought by Airbnb to suppliers?

5. **Bargaining power of consumers:**

    Can the Airbnb consumers drive the price fluctuations of the Airbnb services?

    What is the cost for a consumer to leave Airbnb and switch to a different supplier?

    What is the relevance of a single consumer for Airbnb?

In the Chapter 4 Findings and Analysis of this dissertation, the data collected will provide answers to the questions formulated for each force in the Porter's Five Forces Framework, and it will serve to affirm or negate the disruptive character or Airbnb as an innovation compared to the THI. Under this framework, this dissertation will conclude that Airbnb is a Disruptive Innovation if it has fundamentally altered the overall hospitality industry structure, if it has significantly changed how value is shared in the hospitality industry, or if it has created its own market where the competition is low due to its disruptive business model.

Encroachment Framework

Section 2.7.4 of this dissertation presents the Encroachment Framework. When a new product encroaches in the market, it means that it takes sales away from an incumbent product having a negative impact on the sales of this last one. To analyse Airbnb within the Encroachment Framework, primary and secondary data will be collected to answer the questions about each type of encroachment based on the categorization made by Schmidt and Porteus (Schmidt and Porteus, 2000):

- **High-end encroachment**:

  Is Airbnb appealing to the high-end THI consumers?

  Do the Airbnb consumers have the highest reservation prices?

- **Low-end encroachment**:

  Are the high-end THI consumers ignoring Airbnb and keep using the THI's services?

  Is Airbnb attracting a different type of consumers compared to the THI?

  Is Airbnb attracting the low-end THI's consumers?

To encroach, a new product must be superior with regard to one or more of the following three factors (Schmidt and van der Rhee, 2014). For each of these factors, secondary data will be collected to answer a set of questions. The primary data collected from the Airbnb site will be used at this point to provide answers to some of the questions formulated here:

- **Price**:

  Is the Airbnb price performance superior to the Irish THI?

  Is the price decisive for consumers to choose Airbnb services as opposed to the THI services?

- **Attributes**: There are two types of attributes – the core attributes and the ancillary attributes. The core attributes are things that the product must have, and that all customers appreciate. The ancillary attributes describe what the product is also able to do or deliver beyond the core capabilities of the product.
  What are the core attributes of Airbnb that are common to the core attributes of the THI?

What are the Airbnb's ancillary attributes?

Are the Airbnb's ancillary attributes targeting a particular market segment?

- **Attribute Performance**: describes how well the product performs on the various attribute dimensions; it describes the quality of that attribute.

  What is the Airbnb's performance on its core attributes?

  What is the Airbnb's performance on its ancillary attributes?

The analysis of the data collected in this section will be used to identify the way in that Airbnb encroaches the market under the categorization of encroachment patterns presented in Figure 2.4. Within this framework, the core attributes determine whether the new product encroaches from the low-end or the high-end, while the impact of the ancillary attributes, if there is any, determine the type of encroachment, which can be immediate, fringe/new market, or new/detached market. Table 2.2 Mapping of the Type of Innovation to the Type of Diffusion will help on mapping the type of encroachment pattern that Airbnb presents with the type of innovation it corresponds to.

Within the Encroachment Framework presented in this section, this dissertation will conclude that Airbnb is a Disruptive Innovation if it presents a Low-end Encroachment diffusion pattern.

4   Findings and Analysis

4.1   Introduction

This chapter presents the findings and analysis from the different methods of data collection used as part of the research. In one hand, this dissertation carries out a multimethod quantitative study on two different sets of data, one primary dataset and one secondary dataset. The primary data is an Airbnb dataset that has been collected through the observation of the Airbnb website during 3 months, and the secondary dataset is the "Accommodation Capacity in Ireland 2015" (Fáilte Ireland, 2015) report published by Fáilte Ireland. In the other hand, this dissertation carries out a qualitative analysis of Airbnb from an innovation's standpoint, more specifically within the Disruptive Innovation paradigm. To carry out this analysis, a set of four innovation frameworks was selected as presented in the Chapter 2 Literature Review of this dissertation:

1. Technology and Meaning Framework
2. Blue Ocean Strategy Framework
3. Porter's Five Forces Framework
4. Encroachment Framework

For this qualitative analysis, a variety of secondary data has been collected available from different sources. The form of the secondary data collected is text data, and the sources considered given the limitations in the time available for this research are notices, newspapers, journals, reports, books, magazine articles, surveys, social networks, blogs and previous research materials on the topic.

This qualitative analysis has been structured in the form of a set of questions addressing the key areas of each Innovation Framework covered in this dissertation. The question structured based analysis will allow the integration of the results of the quantitative analysis performed in first place into this qualitative analysis. In this way, the quantitative analysis will feed the qualitative analysis carried out on the Innovation Frameworks.

4.2   Airbnb Dataset and Fáilte Ireland Dataset Analysis

4.2.1 Accommodation Volume and Distribution per Premise Type in the Republic of Ireland

The hospitality segment in the Republic of Ireland is mostly composed of Hotels. Only Hotels represent the 87% of the total constituted by Hotels, Bed & Breakfasts and Guesthouses as can be seen in Figure 4.1. The "Accommodation Capacity in Ireland 2015" (Fáilte Ireland, 2015) report provides data regarding other type of accommodations like self-catering properties, caravans, camp sites and hostels, but they have been left out of this analysis, as they are types of accommodations that are not comparable to the accommodations offered by the Airbnb platform. In total, the number of available rooms including Hotels, Bed & Breakfasts and Guesthouses in the Republic of Ireland is 64643. This number will serve to analyse the relative size of Airbnb in terms of volume compared to the THI in the Republic of Ireland.
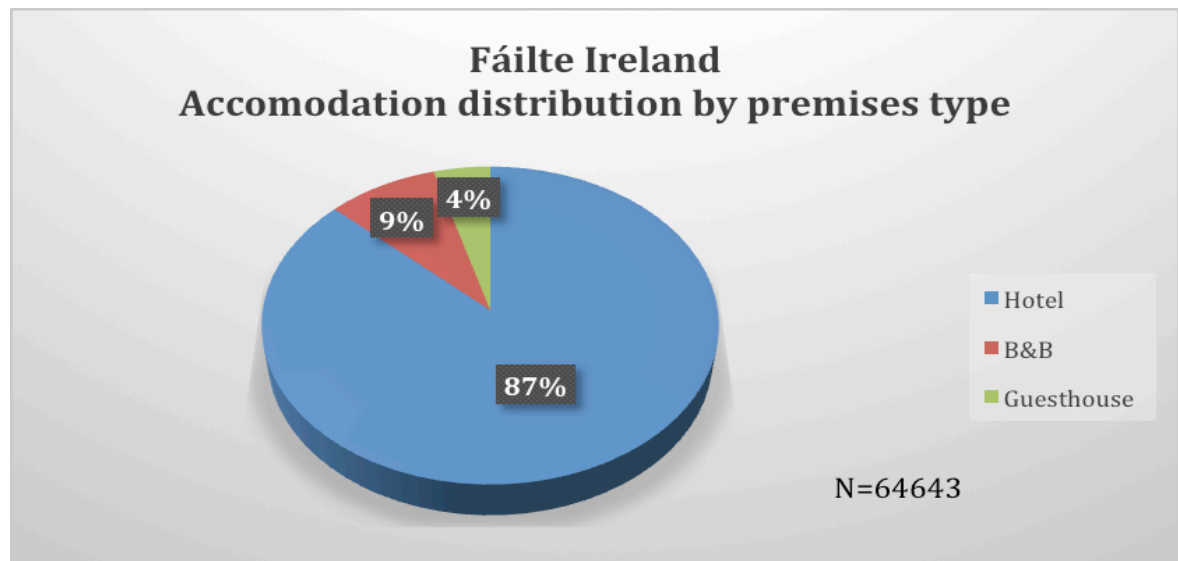
FIGURE 4.1 Accommodation distribution by premises type in the Republic of Ireland ("Accommodation Capacity in Ireland 2015" report (Fáilte Ireland, 2015))

4.2.2 Airbnb Distribution of Listings by Room Type in the Republic of Ireland

To compare Airbnb to the THI in the Republic of Ireland, an analysis has been run in the Airbnb dataset obtained in Section 3.4.2 of this dissertation.

Airbnb offers different types of accommodations, which are categorized as 'Entire place', 'Private room' and 'Shared room'. The total number of different listings observed during the three months that the data was collected using the Airbnb Web Scraping Tool is 4088.

A 69% of those 4088 listings are listed as 'Private rooms', as can be seen in Figure 4.2. That means that 2811 listings out of the total of 4088 are comparable to the data extracted from the Failte Ireland "Accommodation Capacity in Ireland 2015" (Fáilte Ireland, 2015) report, where only Hotels, Guesthouses and Bed & Breakfasts has been considered for this analysis.
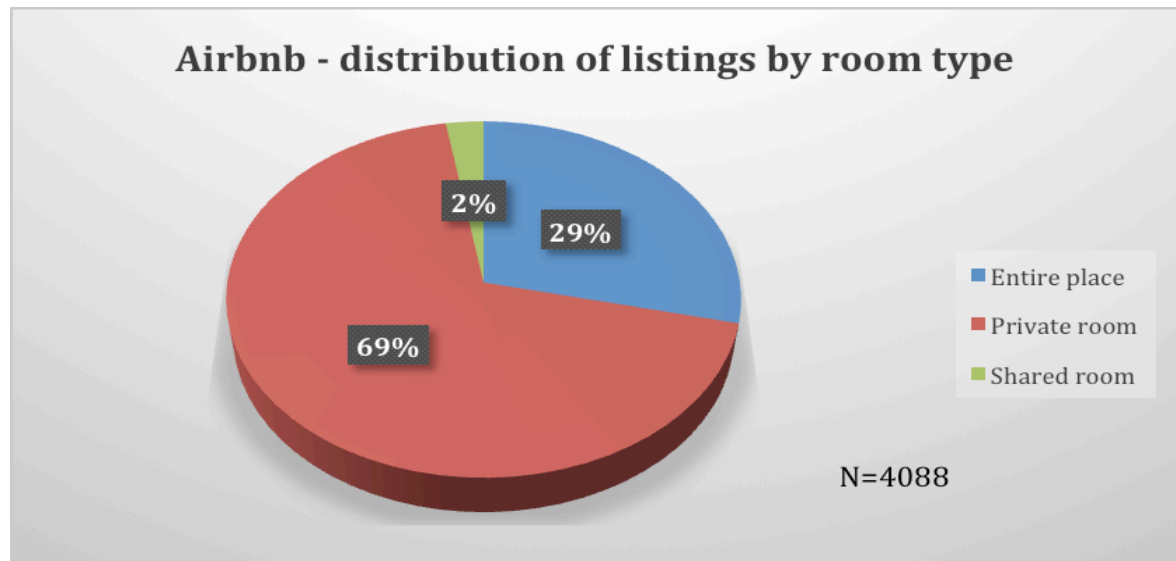
FIGURE 4.2 Airbnb graphical percentage distribution of listings by room type in the Republic of Ireland

In a first approach, it was considered to include the "Entire Place" type listings found in the Airbnb dataset in this analysis, as it could be argued that this type of accommodations could be equivalent to the accommodations represented by the rooms available in a Five Stars rated Hotel. After assessing the validity of this assumption, it was deemed appropriate to exclude this type of accommodations from the analysis, and focus in the accommodations of type "Private Room" to keep the consistency and the objectiveness of the results obtained in this analysis.

In terms of volume or number of rooms offered, the 2811 listings found in the Airbnb dataset categorized as "Private Room" represent a 4.34% compared to the 64643 rooms provided by the THI in the Republic of Ireland.
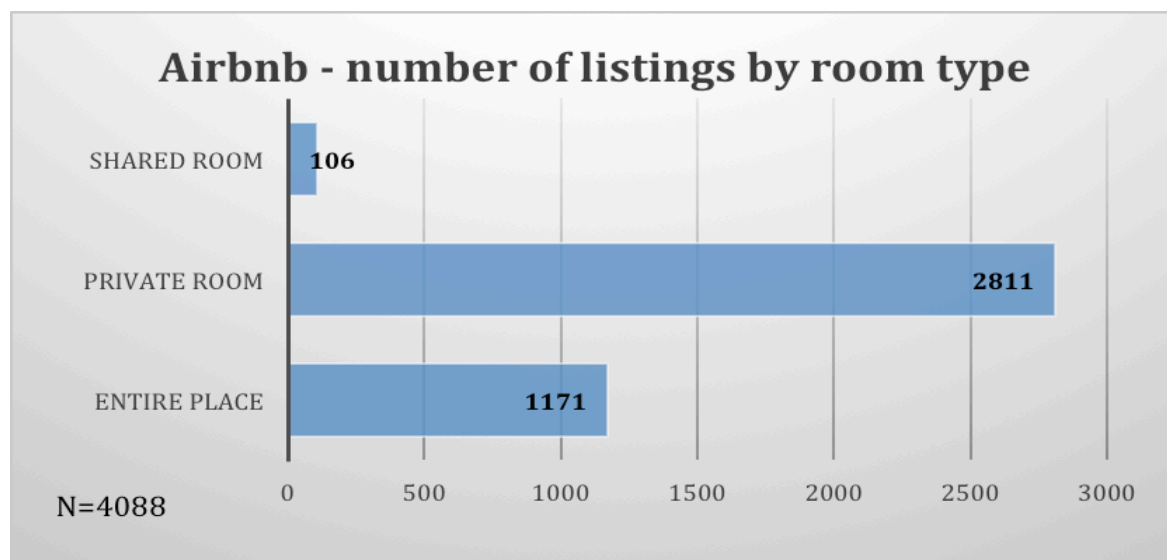
FIGURE 4.3 Airbnb graphical distribution of listings with totals by room type in the Republic of Ireland

4.2.3 Airbnb Penetration in the Republic of Ireland since its launch in 2008

As explained in Section 3.4.2, this dissertation proposes a mechanism to identify and measure the penetration of Airbnb in the Republic of Ireland. For a given point in time, the penetration is defined as the number of distinct Airbnb hosts that have cumulatively signed up in the Airbnb website up to that point in time. The date in which a host signed up in the Airbnb site can be extracted for each listing by retrieving it from its host's profile.

Figure 4.4 shows a graphical and numerical representation of the growth of Airbnb, but also the pace of this growth, year by year, since its inception in 2008. Each pair of bars in the graph represents the number of new registered users on the Airbnb platform for a given year in light blue, and the cumulative number of users since 2008 in dark blue. The right-most pair of bars, coloured in green, represents this same information but only until the 31st of March of 2015, the end date for the Airbnb website data collection. During 2008, 2009 and 2010, Airbnb showed a very modest or even insignificant number of new

users registered in the platform. From 2011, the number of users in the platform has, at

least, duplicated every year, reaching a significant rate of growth of almost 115% in 2013

and more than a 137% in 2014. This makes safe to state that Airbnb is showing an

exponential growth in the Republic of Ireland since it was born seven years ago in 2008.

Airbnb - distribution of users by year

N=2976

	2008	2009	2010	2011	2012	2013	2014	2015
Number of new users	1	4	39	146	287	617	1463	419
Cumulative number of users	1	5	44	190	477	1094	2557	2976
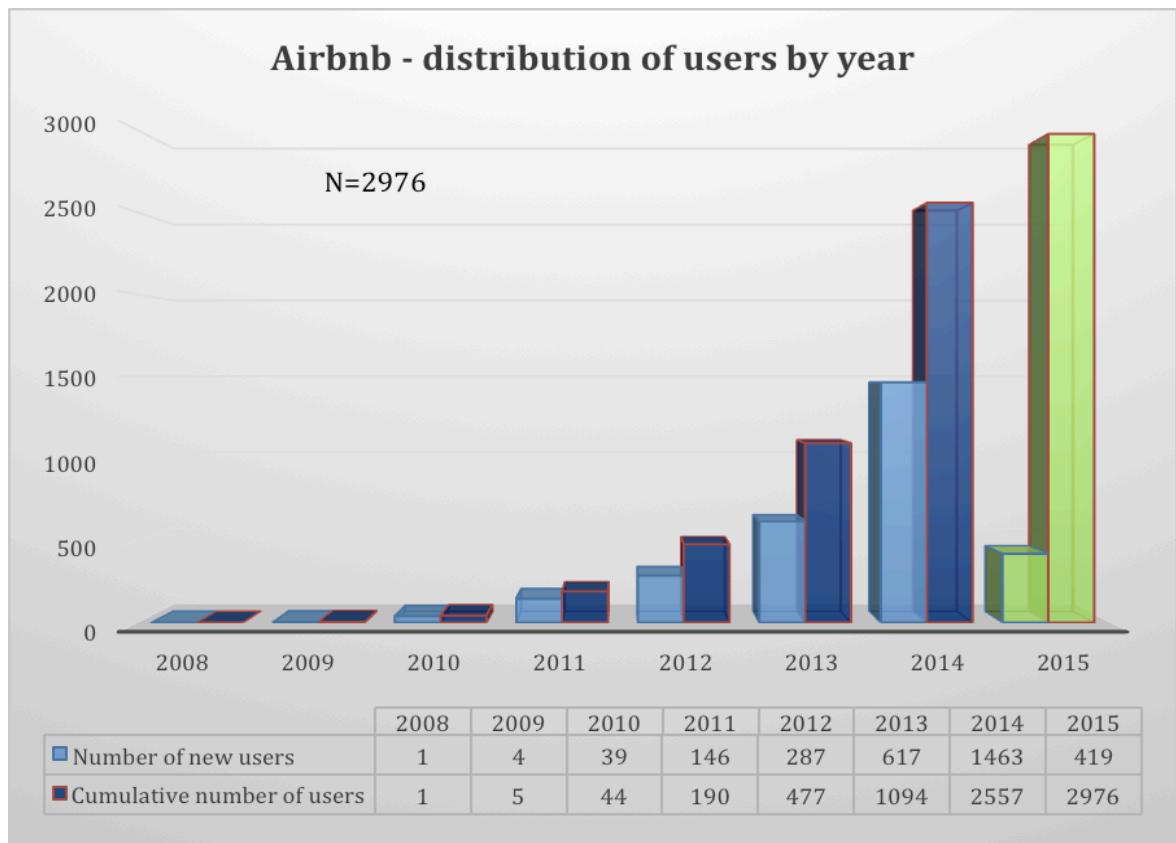
FIGURE 4.4 Airbnb users distribution by year in the Republic of Ireland

4.2.4 Airbnb Distribution of Hosts by County in the Republic of Ireland

It is remarkable, when looking at Table 4.1, that a huge part of the Airbnb's hosts are

located in the County of Dublin, almost a 40% of the total. In this regard, Dublin City, the

capital of the Republic of Ireland, probably has a strong influence on this number due to

its cosmopolite character, and because the biggest airport of the island is located in this

city. Because of this, Dublin could be considered as the entry point to the Republic of

Ireland for tourists. The next two counties that follow Dublin in terms of the number of hosts that they hold are Galway and Cork, with a 9% and a 7% of the total number of hosts respectively, which highlights the uneven distribution of hosts across the island.

TABLE 4.1 Airbnb distribution of hosts by County in the Republic of Ireland

County	Number of users	Percentage	%
Antrim	2	0.07	%
Armagh	23	0.77	%
Carlow	15	0.50	%
Cavan	27	0.91	%
Clare	119	4.00	%
Cork	216	7.26	%
Donegal	88	2.96	%
Down	4	0.13	%
Dublin	1182	39.72	%
Fermanagh	19	0.64	%
Galway	269	9.04	%
Kerry	176	5.91	%
Kildare	43	1.44	%
Kilkenny	53	1.78	%
Laois	23	0.77	%
Leitrim	43	1.44	%
Limerick	48	1.61	%
Londonderry	38	1.28	%
Longford	8	0.27	%
Mayo	125	4.20	%
Meath	56	1.88	%
Monaghan	11	0.37	%
Offaly	18	0.60	%
Roscommon	26	0.87	%
Sligo	46	1.55	%
Tipperary	71	2.39	%
Tyrone	4	0.13	%
Waterford	28	0.94	%
Westmeath	34	1.14	%
Wexford	81	2.72	%
Wicklow	80	2.69	%
Total	**2976**		

4.2.5 Airbnb Distribution of Listings by Price Range in the Republic of Ireland
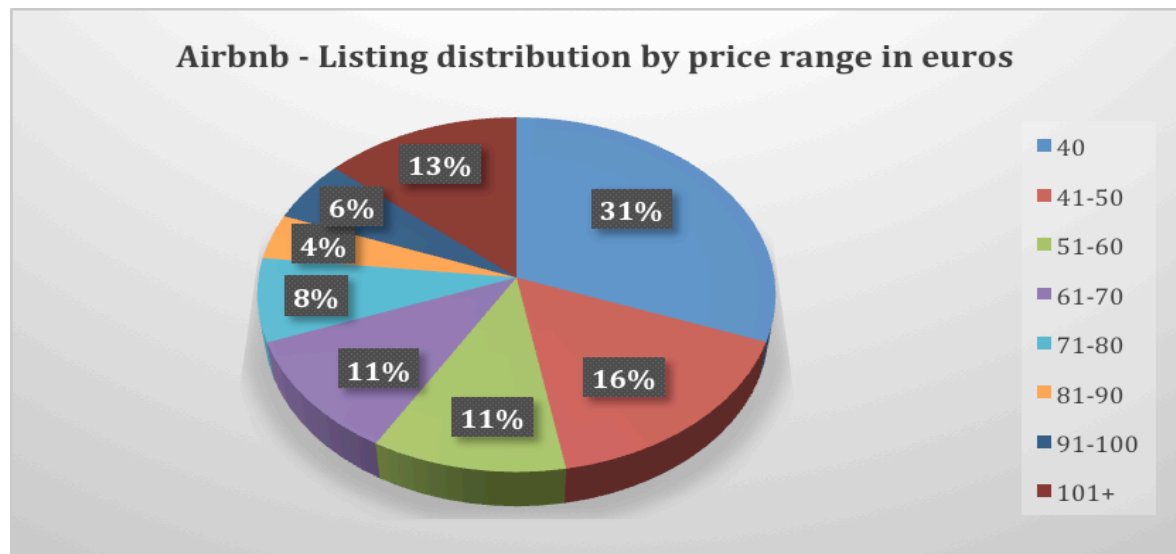
FIGURE 4.5 Airbnb graphical distribution of listings by price range in the Republic of Ireland

In March 2015, The Irish Times (Pope, 2015) published a new based on the hotels.com Hotel Price Index (HPI), which states that the average price of a room in the Republic of Ireland in 2014 was 103 euros. The prices of the Airbnb listings collected in the Airbnb dataset are in its majority under the average room price fixed by the Hotel Price Index. As can be clearly seen in the Figure 4.5, only a 13% of the total number of Airbnb's listings has a price per room above 100 euros, leaving an 87% of the listings with prices more competitive than the ones offered by the Hotels. It is also noticeable that almost 50% of the Airbnb's listings has a price per room below half of the average price per hotel room, which makes Airbnb an attractive alternative to the services provided by the THI in the Republic of Ireland for tourists from a financial standpoint.

4.3   Airbnb Analysis within the Technology and Meaning Framework

4.3.1 Radical Changes in Technology Introduced or Leveraged by Airbnb

The technology that underlies the Airbnb platform is the Internet itself. Airbnb has not introduced any technology that represents a radical change compared to the existing ones; neither a radical change in the technology itself has leveraged the use of Airbnb. The Internet, and all the ecosystem of technologies around Internet, like mobile applications, web technologies, location services, online payments and even SMS technology, were there before and after Airbnb was born in 2008. Airbnb made use of all of them to build an online platform for accommodations, but the Internet, or the technologies mentioned above cannot be considered Radical Changes in Technology within this analysis.

4.3.2 Incremental Changes in Technology Introduced or Leveraged by Airbnb

The Internet, and the ecosystem of technologies around the Internet, are the technologies that have leveraged the use of Airbnb by making their services more accessible to the end users. For example, the development of an Airbnb mobile application that runs in the main mobile platforms creates more engagement with the users by creating smarter tools that eases the use of the services that Airbnb provides in its online platform (Lawler, 2013). It is clear that web technologies, mobile application technologies and location technologies improve every day doing the integration of all of them in online platforms easier from a development standpoint. These online platforms can, therefore, offer more tailored services to end users and do it with rich user interfaces that make the use of the platform services a pleasant experience. However, none of those technologies can be considered as Incremental Changes in Technology that leveraged the use of Airbnb services. It could be argued that the advances in technology, more in particular web technologies and

mobile application technologies, have helped Airbnb to get its services open to a wider range of users and to make them more user friendly, but this has happened to any online platform, service or industry making use of the Internet as a channel to reach consumers. Therefore, there is not a specific competitive advantage in the technologies used that applies particularly to Airbnb compared to competitors.

4.3.3 Radical Changes in Meaning Introduced or Leveraged by Airbnb

These are some statements extracted from the section "About Us" in the Airbnb.com site:

"is a trusted community marketplace for people to list, discover, and book unique accommodations around the world — online or from a mobile phone or tablet."

"Airbnb connects people to unique travel experiences, at any price point, in more than 34,000 cities and 190 countries. And with world-class customer service and a growing community of users, Airbnb is the easiest way for people to monetize their extra space and showcase it to an audience of millions."

These statements define the Radical Change in Meaning that Airbnb has introduced into the Hospitality Industry on a worldwide scale. Airbnb has changed the traditional B2C model typical in the Hospitality Industry to a peer-to-peer business model, like Napster and eBay did before in the music and goods trade business respectively (Cohen, 2014), easing the connection between guests and homeowners. Airbnb reduces transaction costs through its use of ICT. Airbnb is referred as a "cybermediary", a corporation that benefits from a leaner cost structure, global reach, and technological economies of scale. Airbnb does not own the rooms available on its website, which is a competitive advantage; it is a platform for people looking to rent them. Airbnb charges hosts a 3% of the price of

the room, but also collects an additional 6% to 12% from the guests that make the

reservation through their platform (Galliani, 2014).

The change in meaning comes also from the paradigm shift that Airbnb has introduced

into the Hospitality Industry regarding to the experience provided to the consumer. Where

the THI, like for example the Hotels, offers a sense of security and a set of well-known

services and amenities, Airbnb provides a more personal experience when the guest is

looking for integration in the local culture, offering a wider range of types and

accommodations and locations. These locations are, in many cases, better than the

locations provided by the THI. As per the Airbnb website, 91% of guests using their

services want to live "like a local", doing a 42% of their spending in the neighbourhoods

where they stayed, which means a new direct source of revenue for those areas, but also

an indirect source of revenue if we look at the data that states that 48% of the host income

coming from Airbnb is spent on the rent or groceries (Airbnb, Inc, 2015). This has a

positive economic impact on cities where Aribnb is present, and it makes the change in

meaning brought by Airbnb more remarkable compared to the scenario where a traveller

stays at a Hotel, where the economic impact is not directly passed to the citizens.

4.3.4 Incremental Changes in Meaning Introduced or Leveraged by Airbnb

To implement the Radical Change in Meaning that Airbnb represents to the

accommodation industry as it has been showed in the Section 4.3.3 of this dissertation,

Airbnb has implemented some Incremental Changes in Meaning that have to do mainly

with the concept of online trust. There are well known online sites like www.booking.com

or www.hotels.com that offer accommodation search engines to the end users, with the

possibility of making a reservation directly from those websites. The users of these online

sites can create accounts to manage all their bookings and receive tailored offers

depending on their preferences. In these online sites, the trust comes from the reputation of the site itself as a well-trusted site, but also from the confidence of the consumer in the fact of making a reservation in an established physical business like a Hotel or any other type of physical business.

Botsman and Rogers (Botsman and Rogers, 2010) identified "trust between strangers" as a necessary foundation for the functioning of peer-to-peer (P2P) asset-sharing marketplaces. This "trust between strangers" requires more complex trust systems that only reputation systems like the ones implemented in e-commerce platforms (Pick, 2012). In online P2P marketplaces, "trust scores" serve to create confidence, but the transparency in how those trust scores are calculated are essential to create the online trust. A way of empowering online trust in P2P marketplaces is by fostering trusting communities that work like they would work in a small village, in which trust exists because everybody knows each other directly or indirectly (Pick, 2012). In this regard, Airbnb introduced the "Social Connections" feature (Airbnb, Inc, 2015) to *"make the Airbnb community a little smaller by showing you how you're connected to others, either directly or through mutual friends, based on your Facebook privacy settings".* On top of this, Airbnb has introduced the concept of "Verified ID", where *"Guests and hosts verify their IDs by connecting to their social networks and scanning their official ID or confirming personal details"* (Airbnb, Inc, 2015)*,* a trusted reviews system where guests and hosts can mutually leave reviews. Airbnb has also implemented a messaging system where guests can get in touch with hosts before and after the booking happens. Compared to existing accommodation search platforms, like www.hotels.com or www.booking.com, Airbnb has taken the concept of an accommodation search platform to a different paradigm, more oriented to social networking and trust building, representing an change in the way consumers look for accommodations in the Internet-connected world.

4.3.5 Conclusions

Section 3.4.3 of this dissertation defined the criteria, based on the categorization made by Norman and Verganti (Norman and Verganti, 2014), to consider Airbnb a Radical Innovation within the Technology and Meaning Framework. Based on that criteria, this analysis would consider Airbnb a Radical Innovation if any of these two conditions was met:

1. *Airbnb is a Radical Innovation if it has introduced a new enabling technology that improves significantly the interaction of users when they look for accommodations.*

2. *Airbnb is a Radical Innovation if it represents a shift in the way that users interact and make use of the hospitality services when compared to the THI.*

The analysis of Airbnb within the Technology and Meaning Framework has showed that Airbnb has not introduced any radical innovation in terms of technology. The incremental changes in technology have helped the growth of Airbnb, but these changes have come from the incremental improvement on the Internet itself, especially in the web and mobile technologies.

However, as shown in Sections 4.3.3 and 4.3.4 of this dissertation, Airbnb has represented a paradigm shift in what hospitality services mean, and also in the way that users interact and access those services, allowing them to act as guests but also as hosts in an industry dominated exclusively by Hotels and other well established hospitality businesses. Therefore, this analysis concludes that Airbnb represents a Radical Innovation in the Technology and Meaning Framework.

4.4   Airbnb Analysis within the Blue Ocean Strategy Framework

4.4.1 Four Actions Framework - Eliminate

What factors has Airbnb eliminated that the THI has long competed on?

Airbnb has eliminated the hassles that searching and booking hotel rooms mean. When users search for hotel rooms online, they can make use of different third-party accommodation search platforms like www.hotels.com or www.booking.com. These platforms offer different prices and charges different fees depending on the payment method used to make the reservation. Is up to the user to compare those prices, including the price offered directly by the hotel, to get the best rate available. Airbnb unifies all its listings in a single platform that is not accessed by third-parties, guaranteeing the best price rate.

From a consumer's standpoint, the only way of perceiving in advance the level of quality of service they will get before the stay happens, is by means of reviews and the pictures provided by the accommodation search platform used. In many cases, the pictures provided by the hotels do not match the quality of the room eventually assigned to the reservation. Airbnb guarantees that the pictures shown in the Airbnb platform belongs to the accommodation offered to be booked. Airbnb hosts are provided with the services of a professional photographer for free. This service not only helps hosts to make his listing more appealing to potential guests, but also serves as a mechanism of verification for the listing, and it is displayed in the listing web page. Airbnb also implements a system of "confirmed reviews" (Airbnb, Inc, 2015) to provide confidence to its users. This is of particular importance given the studies showing that manipulation in online reviews for hotels exists (Mayzlin, Dover and Chevalier, 2014), which for the end user gets translated into uncertainty and unreliability in the reviews' system.

4.4.2 Four Actions Framework - Reduce

What factors has Airbnb reduced well below the THI's standard?

Airbnb has reduced significantly for the user the cost of booking a room compared to the THI. Section 4.2.5 of this dissertation shows after the observation of the Airbnb site and the collection of a dataset containing the available listings for the Republic of Ireland, an 87% of the total number of listings in Airbnb have a price rate below the average price for the Republic of Ireland in 2014, 103 euros. Furthermore, a 50% of the Airbnb's listings have a price per room below half of the average price for a hotel room, making Airbnb a very attractive alternative to the services provided by the THI.

4.4.3 Four Actions Framework - Raise

What factors has Airbnb raised well above the THI's standard?

Airbnb has raised the customer's satisfaction levels by implementing their strategy of offering experiences as opposed to only offer accommodations. With Airbnb, guests experience staying at somebody's else's home, but they live it as a local integrating with the local culture and activities (Airbnb, Inc, 2015). By being helped by locals, guests can discover what Airbnb calls "*hidden gems*", places like parks or museums that may not be in the tourist guides and that otherwise would be missed in a typical stay in a new city. Moreover, Airbnb encourages hosts to offer unique activities to guests, so they can offer their services in the platform besides their accommodations. These activities can be, for example, sports lessons, city tours or language classes. Airbnb is extending its services to offer a seamless end-to-end experience for its users when they travel, making the Airbnb business the "entire trip", as per Airbnb's CEO, Brian Chesky, words (Carr, 2014). Ultimately, the Airbnb's goal is to make the Airbnb experience more consistent from stay to stay for its users.

4.4.4 Four Actions Framework - Create

What factors and values has Airbnb created that the THI has never offered?

Airbnb has created a new market space based on a C2C model. Thanks to the social networking paradigm, Airbnb has built a hospitality services platform that grows every day and competes with the THI by offering to the users a new type of experience, closer to the local culture. Airbnb has created value where there was no value before; it has created value in staying in somebody else's home. As a result of this, Airbnb has created new revenue streams to hosts on the platform, but at the same time it has brought a shift in the pricing of the hospitality services. As seen in Section 4.2.5, an 87% of the Airbnb's listings are below the average room price offered by the THI, which definitely indicates that the Airbnb's business model can compete aggressively with the incumbent industry in the pricing arena.

4.4.5 Conclusions

Section 3.4.3 of this dissertation defined the criteria to consider Airbnb a Disruptive Innovation within the Blue Ocean Strategy Framework following the four actions identified by Kim and Mauborgne (Kim and Mauborgne, 2005). The criteria stated that this research would consider Airbnb a Disruptive Innovation if it has created its own Blue Ocean, in other words, if it has created a new curve of value for consumers of the Hospitality Industry services.

The analysis of Airbnb in the Blue Ocean Strategy Framework clearly depicts a Blue Ocean created by Airbnb. An entirely new business model, the C2C model, applied to a well-established and static industry like the Hospitality Industry has changed the rules in which consumers interact with hospitality services providers. With the THI, the consumer is tied to an experience pretty predictable in terms of the services and value got for his

money. The THI has not changed noticeably in years, keeping in many cases inflated prices that are difficult to lower due to the investments made in the infrastructure and other fixed costs associated with the maintenance and staffing.

Airbnb has built its Blue Ocean by connecting guests and hosts directly, allowing Airbnb to grow its business at no cost in terms of investments in premises and staff to run it. Airbnb does not own any of the properties listed in its website. Instead, Airbnb can focus on its online platform to improve it, and provide a better experience to both guests and hosts by increasing the trust on the services they provide. At the same time, the experience that Airbnb provides to its guest is very different to what users of THI get, being this experience much closer to what locals experience. This aspect has been crucial for Airbnb to build its own Blue Ocean.

Furthermore, the prices offered by Airbnb are, as demonstrated in this research, significantly more affordable than the prices offered by the THI, which places Airbnb as an appealing alternative for consumers from a domestic economy perspective.

After this analysis, this research concludes that Airbnb represents a Disruptive Innovation in the Blue Ocean Strategy Framework.

4.5   Airbnb Analysis within the Porter's Five Forces Framework

4.5.1 Rivalry Amongst Existing Competitors

Are the Airbnb competitors numerous?

Airbnb is not the only Sharing Economy in the hospitality services arena, but its biggest competitors, HomeAway and BeHomm. target slightly different market segments. HomeAway is oriented to the rental of whole houses, which are in most of the cases second residences, being the primary users of this platform property owners, but also property managers. BeHomm is a platform is specifically oriented to the house exchange between designers and visual artists. Another big competitor of Airbnb is TripAdvisor. TripAdvisor has released its apartment and holiday rental site called FlipKey, but this site is oriented to the rental of entire houses or condos from particulars, not allowing the rental of rooms at the moment. In general terms, the rest of Airbnb competitors have not a noticeable size compared to Airbnb, thus not being a real threat as of today.

What is the level of innovation capability required to compete with Airbnb?

Airbnb competitive advantage does not come from innovations in technology. Instead, its competitive advantage comes from being the first-mover in the C2C model applied to the hospitality services. The level of innovation to compete with Airbnb is low in terms of technology, but high in terms of meaning due to the position gained by Airbnb in seven years of life and the exponential growth that Airbnb is experimenting at the moment.

Do Airbnb competitors have a sustainable competitive advantage?

Airbnb does not present any competitive advantage per se besides of being the first-mover in the C2C model applied to the hospitality services. Likewise, competitors have at this point no competitive advantage compared to Airbnb.

Is the brand loyalty significant in the Hospitality Industry?

Brand loyalty is significant in the THI. It becomes more significant for the high-level services provided by four and five stars rated accommodations. In the Sharing Economy arena, Airbnb is incontestably leader, thus making the brand loyalty not relevant at the moment. In the Sharing Economy world, and in particular for Airbnb, confidence and consumers' trust is critical to the success at any level, from the low-level accommodations to the high-level ones.

Are the fixed costs high in the Hospitality Industry?

Fixed costs are high in the THI (Brady Capital Research Inc., 2014). Land, premises, taxes, wages to employees and maintenance costs are the main ones. Any new player in the THI has to face all these costs to get into the market. Airbnb and other Sharing Economies targeting the Hospitality Industry do not own any of the properties they list in their websites. Their fixed costs are broadly reduced to the online platform associated costs plus the employee's wages costs, which represents a great advantage compared to the investments that the THI has to face.

4.5.2 Threat of New Competitors

What are the barriers to entry for Airbnb competitors?

Airbnb competitors do not face any barrier to entry in the accommodation services market besides the legal issues that other Sharing Economies, including Airbnb, are facing with governments and the traditional industry operating the market.

Are there patents, Airbnb proprietary technologies, which would act as a barrier to entry for an Airbnb competitor?

Airbnb does not hold any patents or owns any proprietary technology that could prevent any competitor to enter the market. A search made in the U.S. Patent Office shows Airbnb referenced by some other patents (U.S. Patent Office, 2015), most of them owned by another company called Fatdoor, Inc.

How easy is to achieve economies of scale within the Airbnb's business model?

The cost of achieving economies of scale for Airbnb is much more reduced than the cost for the THI. While the THI business is a linear business, its cost to grow continue to rise in time, while the Airbnb model based on an online platform decreases logarithmically in time (Moazed, 2014).

What would be the consumer switching cost to an Airbnb competitor?

For the incumbents in the THI the consumer switching cost is high, as the consumers are no longer held captive to the services offered by them and Airbnb present a more attractive and personal alternative (Brady Capital Research Inc., 2014).

For Airbnb, the consumer switching cost is medium or low as it can reach customers from all over the world in a centralized platform. Moreover, its leading position in the market and the lack of important competitors ensures Airbnb a low switching ratio.

Is Airbnb a well-known brand in the market?

Airbnb is a well-known brand to travellers as an alternative to the THI (Airbnb, Inc, 2014).

Are Airbnb services highly differentiated compared to competitors and the THI services?

Airbnb services are very different to what the THI offers. With Airbnb, guests experience staying at somebody's else's home but living it as a local integrating with the local culture and activities (Airbnb, Inc, 2015). Instead of focusing only in the accommodation part of the stay, Airbnb extend its services by offering a seamless end-to-end experience to its

users when they travel, making the Airbnb business the "entire trip", as per Airbnb's CEO Brian Chesky words (Carr, 2014).

Would an Airbnb competitor expect retaliation from the THI incumbents?

As Section 2.2 of this dissertation exposed, there are legal issues that Sharing Economies face trying to limit their growth or directly ban them. At the moment, the THI is pushing authorities to rule against Airbnb as they consider that they violate laws and they represent unfair competition. For the authorities, Airbnb also represents a threat when it comes to taxes, because even if Airbnb pays its mandatory taxes as a business, authorities do not have a proper means of collecting all the taxes generated by the income that hosts receive from Airbnb. Airbnb competitors would have to face the same type of retaliation from the THI that Airbnb has faced so far.

4.5.3 Threat of Substitute Products or Services

What is the consumer's willingness to use a substitute for Airbnb?

The other accommodation service that has grown as noticeably as Airbnb is Couchsurfing.org, but the model is different enough to allow Airbnb to keep its differentiation.

What is the switching cost for the Airbnb consumer?

There is no cost for a consumer of Airbnb services to switch to another hospitality services provider.

What is the Airbnb's quality performance compared to substitutes?

One of the main strengths of Airbnb is the focus in the customer service and satisfaction. Airbnb has raised the customer satisfaction levels by implementing their strategy of

providing experiences as opposed to only provide accommodations. Airbnb is still the leader in the hospitality services C2C model due to the increase of trust and confidence of consumers on its services.

4.5.4 Bargaining Power of Suppliers

Is the number of Airbnb competitors significant in the market to allow suppliers to switch to a competitor?

Airbnb holds the leader position in the hospitality services C2C market. Airbnb suppliers are the users in the platform that act as hosts, and their power is limited. Not using Airbnb to rent their rooms would likely lead those rooms to be unoccupied.

What is the value brought by Airbnb to suppliers?

Airbnb allows suppliers, hosts in the Airbnb platform, to rent their premises providing them with marketplace that covers 34.000 cities in 190 countries. Any user of the Airbnb platform in any place in the world becomes a potential guest of any property listed in the website. The secure payments made through the Airbnb platform, and the host protection guarantee up to $1.000.000, provides a value to hosts that no other competitor can offer at the moment.

4.5.5 Bargaining Power of Consumers

Can the Airbnb consumers drive the price fluctuations of the Airbnb services?

Airbnb does not set the prices of the listings in the Airbnb platform. The users, acting as hosts, set the prices of their listings based on their criteria. Airbnb gets the same percentage fee from the value of the transaction for any stay.

What is the cost for a consumer to leave Airbnb and switch to a different supplier?

There is no cost for a consumer to switch from the services provided by Airbnb to a different supplier.

What is the relevance of a single consumer for Airbnb?

The nominal relevance of a single consumer for Airbnb is significantly low due to the size of the platform, but the C2C model implemented by Airbnb relies heavily on the trust and confidence in the services it provides. A bad review about the Airbnb model, or the way Airbnb reacts when hosts or guests suffer vandalic acts (Arrington, 2011) using their platform, could become a problem if that takes down the confidence and trust built so far.

4.5.6 Conclusions

The analysis of Airbnb within the Porter's Five Forces Framework unveils that Airbnb is not alone in the endeavour of providing an alternative to the THI services. In this market, Airbnb has to fight not only against other companies implementing the same C2C model, but also against the THI, making the hospitality services market a highly competitive one.

The main weakness of Airbnb comes from implementing a business model that is very easily replicable by competitors, not requiring a high level of innovation, but this weakness is almost nullified by the '*first-mover*' in the market advantage that it holds. This '*first-mover*' advantage is one of its main strengths, and it helps Airbnb to defend from new competitors and substitute services in the market. This advantage places Airbnb in a comfortable position where it can experiment and respond to any innovation that a competitor tried to bring into the market.

The main advantage of the C2C model implemented by Airbnb is that it acts as an intermediary between the parties and does not own any of the properties listed on its website. Airbnb does not face the fixed costs that the THI faces, so it can expand its business at practically no cost. This is what makes Airbnb so threatening to the THI, which finds its only way to fight Airbnb, and any other market newcomers, in pushing authorities and regulators to stop or limit the Airbnb activities by means of lawsuits and new regulations.

This analysis has also highlighted the value that users have for Airbnb. While the nominal value that users separately have is relatively low, it is crucial for Airbnb to keep the levels of satisfaction and customer service high, as Airbnb is highly exposed to the lack of trust and confidence if any incident happens to somebody using its services. Social networking, the powerful tool that underlies Airbnb, that made it grow exponentially in its short lifetime can also be a powerful enemy if the expectations from customers are not met or the reputation of the site diminishes.

Overall, the analysis of Airbnb within the Porter's Five Forces Framework presents Airbnb holding a strong position in the Hospitality Industry, where it can compete comfortably with the THI and other competitors. The analysis cannot conclude that Airbnb has fundamentally altered the accommodation industry structure, as per the criteria defined in Section 3.4.3 of this dissertation for the Porter's Five Forces Framework. Regarding the rest of the criteria, Airbnb changing how the value is shared in the accommodation industry and Airbnb creating its own market, this research cannot provide conclusive answers.

The analysis shows Airbnb presenting symptoms that could be argued to be compatible with what a Disruptive Innovation means, but the framework does not provide a means to corroborate whether Airbnb fits the criteria to be considered a Disruptive Innovation within the Porter's Five Forces Framework.

4.6   Airbnb Analysis within the Encroachment Framework

4.6.1 High-End Encroachment

Is Airbnb appealing to the high-end THI's consumers?

Airbnb was born as a solution to a problem in a situation where all the hotels in San Francisco were sold out during an international conference (Chesky, 2013). Airbnb was not targeting the high-end Hospitality Industry. Instead, Airbnb aimed to put in the market accommodations from individuals and create a community growing from person to person and block by block. Consumers of the high-end Hospitality Industry have the highest reservation prices, which are defined as the maximum price that a consumer is willing to pay for a good or service. Section 4.2.5 of this research unveils that while the average price of a room in the Republic of Ireland in 2014 was 103 euros, an 87% of the listings offered by Airbnb have a price below that average price, which clearly shows the low-encroachment diffusion pattern followed by Airbnb.

In a high-end encroachment diffusion pattern, a service or product enters or encroaches the market from the high-end, targeting the consumers with the highest reservation prices. Airbnb, instead, encroached from the low-end of the market becoming an appealing alternative for those consumers looking for lower prices or a different experience in their stays. It is only now when the high-end or luxury accommodation establishments are starting to feel threatened by Airbnb, like in Paris for example, where the luxury hospitality

sector can see how Airbnb is offering around 400 listings with prices over 500 euros a night (Denis and Mazzanti, 2015).

Do the Airbnb consumers have the highest reservation prices?

With only a 13% of the listings for the Republic of Ireland priced above the hotel average price of 103 euros, this dissertation can establish that Airbnb consumers have not the highest reservation prices. Given the distribution of prices found after the observation of the Airbnb site in the Republic of Ireland presented in Section 4.2.5 of this dissertation, the reservation price of Airbnb consumers is low or medium.

4.6.2 Low-End Encroachment

Are the high-end THI consumers ignoring Airbnb and keep using the THI's services?

During the almost eight years of life of Airbnb, it services have not been targeted by the high-end accommodation services consumers, like the business travellers or consumers looking for luxury accommodations, as an alternative to the THI services. Since 2012, the executive management of companies focused on business travel and expense management have detected a significative growth in the number of bookings made in through Airbnb for business travels (Langfield, 2014).

Is Airbnb attracting a different type of consumers compared to the THI?

Airbnb has primarily served budget-minded tourists since its creation in 2007. While this has been key for Airbnb to consolidate a position as an alternative to the THI, this is not the real differentiation that Airbnb pursuits. As stated in the section "About Us" of the Airbnb.com site, *"Airbnb connects people to unique travel experiences, at any price point, in more than 34,000 cities and 190 countries."* The consumers targeted by Airbnb are consumers looking for something else than just an accommodation with the amenities

provided by the THI. Airbnb targets consumers looking for a more personal experience when they book a room, and to achieve this Airbnb empowers hosts to offer guests the possibility of integrating in the local culture and costumes, and also encourage host to create unique activities to engage with guests (Airbnb, Inc, 2015).

Is Airbnb attracting the low-end THI's consumers?

Even if Airbnb offers all types of accommodations and prices, from very modest rooms to villas and castles, the average price of an Airbnb room is well down below the average price for a room in the THI as presented in Section 4.2.5. Because of this, Airbnb is attracting budget-minded consumers and represents an appealing alternative to the THI for any consumer that cannot afford its prices.

4.6.3 Airbnb's Encroachment Factors Analysis

Going ahead with the analysis of Airbnb inside the Encroachment Framework, as defined by Schmidt and van der Rhee (Schmidt and van der Rhee, 2014) the encroachment comes from the superiority of product or service with regard to one or more of the following factors:

Price

Is the Airbnb's price performance superior to the Irish THI?

Airbnb's price performance is significantly superior to the THI. Eighty-seven per cent of the Airbnb listings are priced below the average price of a room, 103 euros, in the THI in the Republic of Ireland. As discussed in Section 4.2.5 of this dissertation, almost half of the Airbnb listings observed, a 47% of the total number of listings, are priced below 50 euros per night, being this half of the average price for a room in the THI.

Is the price decisive for consumers to choose Airbnb services as opposed to the THI?

While it cannot be stated with complete certainty that the price is decisive for consumers to choose Airbnb services from the data collected in this research, there are clear signs Airbnb attracting consumers in the segment of what is called *budget-travellers*. The observation of listings during the data collection process showed that a majority of the listings found in Airbnb presented standards of quality comparable to the standards that a consumer would expect in a hotel room, which played a decisive role when consumers have to decide between similar levels of quality received, but there are noticeable differences in the price of the service.

Attributes

What are the core attributes of Airbnb that are common to the core attributes of the THI?
The core attribute of Airbnb is to provide accommodations in exchange of a rate or fee.

What are the Airbnb's ancillary attributes?

- <u>Location</u>: Because any individual can register and become a host in the Airbnb platform, Airbnb can provide accommodations in any location in any city.

- <u>Local and unique experience</u>: Airbnb offers consumers to experience a stay in a city like a local. It empowers and encourages its hosts to share their world and integrate guests into their activities and local culture. Furthermore, Airbnb offers a wide range of accommodation types that can go from apartments to lighthouses, villas and castles.

Are the Airbnb's ancillary attributes targeting a particular market segment?

The local experience that Airbnb provides through the hosts of its listings opens to Airbnb the market segment of consumers that, regardless of the price, are looking for a different way of travelling and experiencing stays in a new city.

Attribute Performance

What is the Airbnb's performance on its core attributes?

The performance of Airbnb on its core attributes could be argued to be normal or similar to the THI. In its platform, Airbnb offers accommodations that it does not own. The hosts in the platform are the owners of the properties listed in Airbnb as opposed to the THI where they are the owners of the facilities they use to offer their services. This inherent characteristic of Airbnb as an intermediary, connecting guests and hosts, grants it with the ability to offer a broader range of accommodation types in a wider range of locations compared to the THI.

What is the Airbnb's performance on its ancillary attributes?

Location: The performance of Airbnb in the location attribute is moderate. Airbnb listings are distributed all along the cities as opposed to the THI, where hotels need to be located in specific areas of the cities like the business, financial and touristic districts.

FIGURE 4.6 Airbnb geographic distributions of listings in Paris (Source www.insideairbnb.com)

Figure 4.6 and Figure 4.7 show listings available in Airbnb for two of the main cities in the world, Paris and New York. The data has been retrieved from www.insideairbnb.com in the month of August of 2015. This tool is an independent non-commercial tool that allows the exploration of Airbnb data in different cities around the world. The figures represent with red dots entire homes or apartments, while green dots represent private rooms. It is clear that the wide diffusion pattern of Airbnb listings along the cities is one of the strengths of Airbnb as a hospitality services provider.
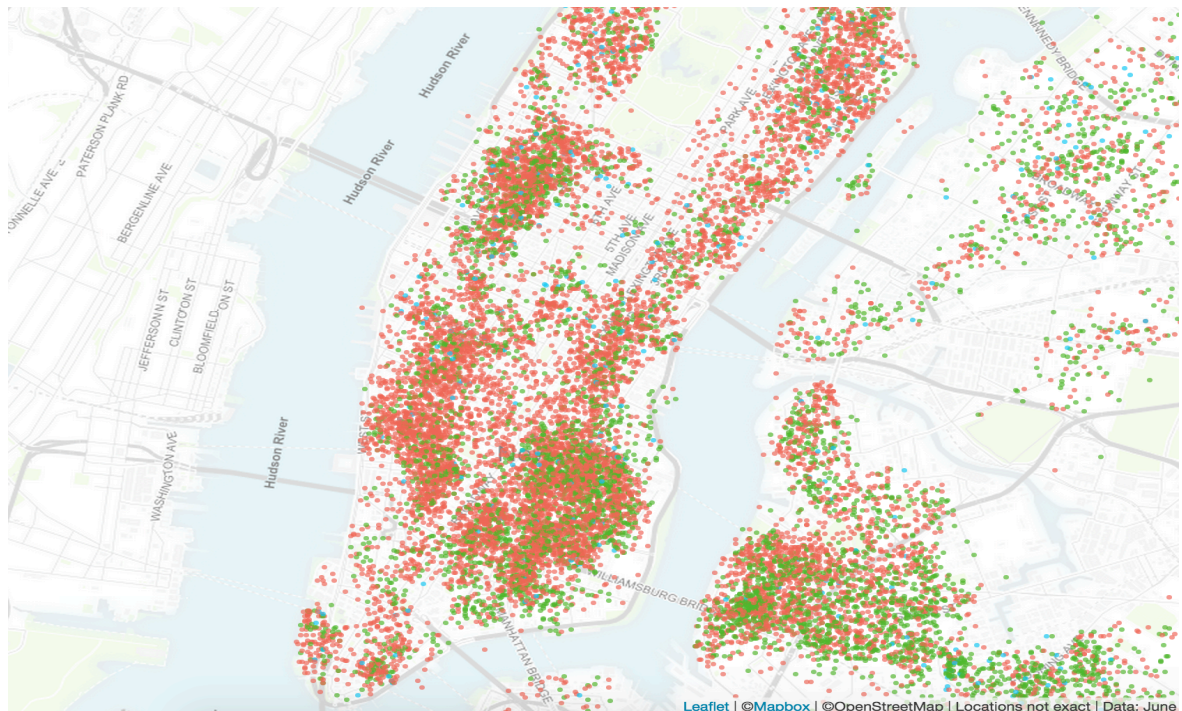
FIGURE 4.7 Airbnb geographic distributions of listings in New York (Source www.insideairbnb.com)

Local and unique experience: The performance of Airbnb on this attribute is moderate. Consumers looking for a different experience when visiting a new city find in Airbnb a compelling list of reasons to use its services. By being a guest of an Airbnb listing, consumers can experience cities like the locals do, integrate into their culture and take part in the activities that hosts may prepare for them (Airbnb, Inc, 2015). This makes Airbnb a "social" way of travelling, something rare to get from the THI. Moreover, Airbnb has amongst its listings accommodation types that are not found in the THI. Castles, clock towers, lighthouses, villas, capsule towers and container homes are only examples that show that almost any type of accommodation can be found in Airbnb, which makes Airbnb the most appealing choice when looking for something unique (Airbnb, Inc, 2015).

4.6.4 Conclusions

In the Encroachment Framework, the core attribute determines whether the new product encroaches from the low-end or the high-end of the market, while the impact of the ancillary attribute, if there is any, determines the type of encroachment, which can be immediate, fringe/new market, or new/detached market.

The analysis of Airbnb inside this framework unveils a significant superiority of Airbnb in the price dimension over the THI. This aspect positions Airbnb in the low-encroachment segment following the categorization shown in Figure 2.4 of this dissertation.

The moderate performance of Airbnb in its ancillary attributes, location and the local and unique experience offer, depicts the encroachment pattern of Airbnb as fringe-market low-end encroachment.

The two types of encroachment patterns showed by Airbnb, low-encroachment and fringe-market low-end encroachment, maps in the Table 2.2 to the types of innovation Disruptive Innovation and New-market Disruption respectively. As a Disruptive Innovation, Airbnb first encroached the low-end of the market, the budget-travellers market, but with the time it diffused upward by increasing the quality standards resulting in an appealing alternative to the mid-end of the market and in some cases the high-end of the market. As a new-market disruption, Airbnb created a fringe-market by attracting travellers looking for an experience different from the services offered by the THI. Both encroachment types found in Airbnb indicate the disruptive nature of the platform and its services, and both encroachment types are low-end encroachment patterns, therefore this dissertation concludes that Airbnb is a Disruptive Innovation within the Encroachment Framework.

5   Discussion

5.1   Introduction

This chapter will review and discuss the main findings of the research process carried out on Airbnb. The goal of this chapter is to also provide a wider picture of Airbnb in the Hospitality Industry ecosystem, and identify areas of investigation that the paradigm shift that Airbnb represents opens to future researches.

5.2   The Sharing Economy as a New Model

The research question of this dissertation is:

"Is Airbnb disrupting the Traditional Hospitality Industry?"

Airbnb is what is known as a Sharing Economy, and to provide an answer to the research question that this dissertation formulates, this work has reviewed an extensive literature related to Sharing Economies, their origins, and the impact they are already having at present in some other fields different from the Hospitality Industry.

As presented in Section 2.6 of this dissertation, the concept of *sharing* is taken one step beyond when it is applied to Sharing Economies, turning the act of sharing into a new economic model. There are two main rationales for the increasing number of Sharing Economies emerging every day in very different fields and market segments.

The first rationale is the elevated price of some services and assets, like cars, or accommodations in the case of Airbnb. From the point of view of the individual that seeks

consuming a service or getting an asset, the idea of borrowing or renting that same asset or service at a reduced cost, as opposed to own it, is very compelling. From the point of view of the individual owning an asset, which can be under-utilized, or the individual capable of providing a service, it is also a compelling idea the fact of being able to monetize it by means of a Sharing Economy. In this regard, Belk (Belk, 2014) states that the economic collapse in 2008 sparked consumer´s psyche to constantly imagine the worst-case scenario, making consumers more price sensitive, but also being more receptive to lending and sharing as per the European Commission (European Commission, Business Innovation Observatory, 2013).

The second rationale is the increasing awareness of the population towards the overconsumption and sustainability. Books, news, documentaries and social networks between others, are helping in the last years to spread the word about the issue that this represents given the limited resources in the world. Because of this, and thanks to the ICT Technologies, alternatives to well-established industries have arisen in the shape of Sharing Economies, creating new business models that compete with the traditional business models.

5.3   The Role of ICT Leveraging Airbnb and Other Sharing Economies

The main paradigms of any Sharing Economy are the non-ownership of the assets and the temporary access to them. Sharing Economies existed much before the Internet and the ICT in villages and cities where groups of people got together to buy an expensive asset and share its usage. For example, in small villages due to the elevated cost of a harvester, it was very common to find that one individual owned that asset, but that asset could be used by anybody in the village by paying a fee to the owner. Another similar formula was to buy the harvester by a group of people by collecting money from anybody

interested in its usage, this becoming the origin of the multi-property economic model. This multi-property economic model became very popular in the 80's, when it was applied to the vacation business industry. In this case, individuals could get access to properties located in touristic areas, mostly in Mediterranean countries, and enjoy their holidays there. By sharing the property with others, the cost of the partial ownership of the property is drastically reduced compared to the ownership of the whole property. In return, this formula brought legal complexities in the contracts and the need of getting to an agreement between all owning parties regarding the dates that each one could make use of the property. These examples of Sharing Economies in the times where the Internet and ICT did not exist had a scope much more reduced, usually a local scope, than the scope of the Sharing Economies in these days, where the Internet and ICT allows individuals to reach services and get products from almost anywhere in the world. Before, Sharing Economies worked in a word-to-mouth basis or through adverts in newspapers and media, but today it has become as easy as connecting to the Internet through a computer or mobile device, and run a search for the desired service or resource. Very likely, there will be an online Sharing Economy that can provide it.

For Airbnb, ICT and the Internet have been key leveraging their business model and making it grow at a speed that nobody could have imagined back in 2008, when Airbnb proposed a model based on individuals paying to stay at some other individual's place. ICT, and the Internet, is the engine underlying in all the Sharing Economies as we know them today. It allows the communication in real time between peers that are not necessarily located in the same city or not even in the same country. To overcome the inherent mistrust that the 'online world' brings to individuals, due to the lack of face-to-face contact and the risks associated to scams like phishing and identity theft in Internet, all the Sharing Economies using Internet as a platform to offering their services have had to build systems to empower trust and transparency online. In this regard, Airbnb has worked in

several areas to provide confidence to its users, like a profile and trusted reviews systems, where both hosts and guest can give their opinions about each other, 'Verified ID' where Airbnb verifies the official ID of the individuals and connects to their social networks, to provide a sense of confidence to the users of their services. On top of this, Airbnb also implements an internal messaging system, where guests and hosts can know more about each other and resolve doubts that may arise before a booking happens (Airbnb, Inc, 2015).

In summary, the collaborative consumption of resources and services paradigm behind any Sharing Economy is greatly benefitted by the agility and real-time processing provided by the Internet and the ICT, and when this is complemented with location and mobile technologies, ICT and the Internet become crucial in their success when they compete with traditional industries based on traditional business models.

5.4   Airbnb as a Disruptive Innovation in the Hospitality Industry

There is no doubt that Airbnb represents a paradigm shift in the way the hospitality services have been understood and provided until these days. Airbnb has introduced a C2C business model in an industry that for centuries has been ran as a B2C business model. This would immediately answer the question regarding Airbnb being an innovation, given that the business model has changed drastically, but this would not answer that clearly what type of innovation it represents. Airbnb does not fit into the paradigm of Sustaining Innovation, as this paradigm mostly represents a type of innovation that happens inside the incumbent companies present in a particular market. These incumbents implement this type of innovation to keep their position in the market, and they reduce the risk and cost associated to the market uncertainty.

Going back to Section 2.5 of this dissertation, we find the three main criterions defined by Dahlin and Behrens (Dahlin and Behrens, 2005) to identify Disruptive Innovations. The research carried out in this dissertation has demonstrated that Airbnb fulfil these criterions as follows:

1. Airbnb is novel. Airbnb is different in terms of paradigm to all hospitality services existing before it was created. It implements a C2C business model, in which individuals that do not know each other agree in using someone's premises in exchange for a fee. Couch Surfing could be argued to be its ancestor as it dates from 2003. Couch Surfing is a Sharing Economy, but Couch Surfing does not represent an innovation in the Hospitality Industry. It originated as a non-profit organization for individuals looking to sleep in whatever spare were available, floor or couch on a free basis. The aim behind Couchsurfing.com could be similar to Airbnb in terms of providing local experiences to guests, but the market segment it is oriented to is completely different to the market segment that Airbnb and the THI target.

2. Airbnb is unique. At the moment of its creation, Airbnb was the only online platform oriented exclusively to hospitality services. Back in 2008, some individuals were using Craigslist.com, the most famous site for classified ads at that moment, to announce their properties available for rent, or Couchsurfing.com to look for free accommodations around the world. Craigslist.com was not dedicated to accommodations exclusively, and held ads of the most various types. In the other hand, Couchsurfing.com was targeting a different market segment as explained in point 1.

3. Airbnb is adopted. This third criterion is the most important for the success of any invention. Airbnb claims to have a presence in 190 countries, to have 350.000 hosts and 15.000.000 guests all over the world (Airbnb, Inc, 2015). These numbers that Airbnb shows in their Airbnb.com site perfectly match with the latest news about its valuation in the market. Recently Airbnb has been valued in $24 billion (Kokalitcheva, 2015), and the company expects to have a revenue of $10 billion by 2020, which makes it comparable to the Marriott Hotel chain that made $13.8 billion in revenue in 2014 and is valued at $21 billion. Airbnb is not yet a public company, so all the funding comes from private investors and hedge funds.

All these numbers points that effectively Airbnb has been widely adopted, otherwise it could have never grown to that size and attract so much money from private funds. This research backs up the adoption of Airbnb as a new hospitality service and its exponential growth since its inception in 2008. Section 4.2 of this dissertation shows the growth of Airbnb in the Republic of Ireland, and the data collected displays an exponential growth of Airbnb every year since 2008, reaching a 115% and a 137% of growth in number of users in 2013 and 2014 respectively. In terms of number of accommodations, the volume handled by Airbnb represents a 4.3% compared to the volume of accommodations offered by the THI, which clearly shows the high acceptance that Airbnb has had in only seven years.

Not as criteria to add to the three presented above, but more as a symptom of disruptiveness, this dissertation has identified a characteristic common to all Sharing Economies that could be an indicator of when a traditional industry feels threatened by the C2C business model. Section 2.2 of this dissertation exposed the legal issues that Sharing Economies of any kind face trying to limit their growth or directly ban them. It has happened with Uber in different cities across Europe, where is has been banned, and also

with Tesla Motors in the U.S., where it's producer-to-consumer model, even not being a Sharing Economy, removes the dealer from the equation. The case of Airbnb is about the THI pushing authorities to rule against Airbnb, as they consider that they violate laws and they represent an unfair competition. For the authorities, Airbnb also represents a threat when it comes to taxes, because even if Airbnb pays its mandatory taxes as a business, authorities do not have a proper means of collecting all the taxes generated by the incomes that hosts receive from Airbnb. This common pattern of legal actions suggest that the more actions that traditional industries take against Sharing Economies, the higher threat they feel it represents for them, becoming also an indicator of the disruptiveness of a Sharing Economy in a market dominated by a traditional industry.

This dissertation analysed Airbnb within four different Innovation Frameworks as shown in Section 3.4.3. Next section, Section 5.5, discusses the outcomes of the analysis carried out on Airbnb on each of them.

5.5   Evaluation of Airbnb within the Innovation Frameworks

Four Innovation Frameworks were selected to analyse Airbnb and provide an outcome that could identify Airbnb as a Disruptive Innovation or not. The four frameworks selected were the Technology and Meaning Framework, the Blue Ocean Strategy Framework, the Porter's Five Forces framework, and the Encroaching Framework.

5.5.1 Technology and Meaning Framework

This framework aims to categorize innovations based on the innovation introduced in terms of technology, but also in terms of the paradigm shift in meaning that the innovation represents itself. The analysis of Airbnb showed that Airbnb does not use or brings any

radical innovation in terms of technology, but on the other hand it represents a radical shift in terms of meaning, therefore Airbnb can be considered a Disruptive Innovation within the Technology and Meaning Framework.

One of the findings of the analysis of Airbnb is the way in which the Technology and Meaning Framework looks at the innovation. While some other frameworks look at the diffusion pattern in which the innovation encroaches in the market, like the Encroachment Framework, or look at the position of the product in the market, like the Porter's Five Forces Framework, the Technology and Meaning Framework looks at the innovation in a more conceptual manner. It analyses an innovation from the point of view of what it means in relation to what already exist in the market, but it does not analyse the success of that innovation in the market. Because of this, it could be argued that this framework fails to comply with the third criterion defined by Dahlin and Behrens (Dahlin and Behrens, 2005), where they state that the innovation has to be adopted. Another point of view could be that and innovation does not necessarily need to be adopted in order to be considered a Disruptive Innovation. It could happen that an innovation is disruptive in nature, but due to socio-economical cincumstances, or the point in time it happens, it is not adopted by the consumers, which does not mean that it will not be adopted in the future.

Airbnb complies with the three criterions defined by Dahlin and Behrens (Dahlin and Behrens, 2005), but it is also a Disruptive Innovation as per the analysis in the Technology and Meaning Framework. This framework clearly highlights how the radical change brought by Airbnb to the Hospitality Industry is enough to be a Disruptive Innovation, and unveils that now all the innovation does not necessarily come from the advances in technology, but more from the application of that technology in the creation of new paradigms.

5.5.2 Blue Ocean Strategy Framework

The outcomes from the analysis of Airbnb within the Blue Ocean Strategy Framework are similar to the results obtained for the analysis within the Technology and Meaning Framework. In this case, Airbnb has clearly created its Blue Ocean by doing a radical change in meaning and addressing the hospitality services business in an entirely different manner to what was done before. The traditional B2C model has been predominant in the THI for centuries, and Airbnb, by implementing a C2C model, has created a new space for itself that runs in parallel to the THI. This is the Blue Ocean that Airbnb has created. Airbnb is not the only one in that Blue Ocean. There are other online hospitality services platforms in that Blue Ocean, like HomeAway and BeHomm. HomeAway is an online platform oriented to the rental of entire houses, which are in most of the cases second residences, being the primary users of this platform property owners but also property managers. In the case of BeHomm, the platform is specifically oriented to the house exchange between designers and visual artists, a segment of the market much more reduced that the one that Airbnb targets. Well-established online platforms dedicated to trips that include hotels, car rental, flights and restaurants like TripAdvisor, have released their own apartment and holiday rental site called FlipKey, but they are oriented to the rental of whole houses or condos from particulars, not allowing the rental of rooms for the moment. It is very noticeable that these online platforms, HomeAway, BeHomm and FlipKey, mimic the look and feel of the Airbnb website welcome page, pioneer in creating a simplified welcome page composed of only a background picture and the boxes to introduce the destination, check-in and check-out dates. This could represent a symptom of the success of the Airbnb strategy and its Blue Ocean, and the intents from competitors to follow the same steps to be successful in it.

5.5.3 Porter's Five Forces Framework

The analysis of Airbnb within the Porter's Five Forces Framework presents Airbnb as a new business model with some strengths for each of the five forces, but this framework does not provide a clear criteria to state whether Airbnb is a Disruptive Innovation or not. This framework is useful to analyse the level of competition within an industry, but is not a framework oriented to the innovation, like the Technology and Meaning Framework and the Encroachment Framework are. The Blue Ocean Strategy framework, even not explicitly mentioning the word 'innovation' in the description of its strategy, is oriented to innovation by the definition of what Blue Oceans mean.

This dissertation suggest that a possible interpretation of Radical Innovation in the Porter's Five Forces Framework would be a scenario where the forces 'Rivalry amongst existing competitors', 'Threat of new competitors' and 'Threat of substitute products or services' identify the creation of a new empty space in the industry or market where the product or service in question is placed, being this empty space similar to the Blue Oceans described in the Blue Ocean Strategy Framework. Airbnb shows strength in these three forces, but due to the lack of an specific criteria built into the framework to measure or categorize the radicalness of innovations, this dissertation will not consider the outcome of the analysis of Airbnb in the Porter's Five Forces Framework as a decisive factor when answering the main question that this dissertation formulates.

As stated in Section 2.7.3 of this dissertation an innovation would be considered a Radical Innovation *'if and only if it fundamentally alters the overall industry structure in which the companies operate, or significantly changes how value is shared in that industry'*. Airbnb has not altered the overall Hospitality Industry structure; neither has significantly changed

the way the value is shared in the Hospitality Industry, but the analysis unveils a potential in the Airbnb model that should not be ignored by the incumbents.

This research has also found that when this framework is applied to a company within an industry, Airbnb in the THI in this case, it focuses on the current position of that company with regards to the competitors in that industry, making very difficult its application or validity when it is applied to radical innovations, as they do not often show in the early stages the numbers and characteristics of well-established companies. Other frameworks, like the Technology and Meaning Framework, focus instead on the nature of the innovation itself and its radicalness, thus allowing its identification in the early stages of the innovation making them more suitable for this type of analysis.

5.5.4 Encroachment Framework

This dissertation would consider Airbnb to be a Disruptive Innovation within the Encroachment Framework if it presents a Low-end Encroachment diffusion pattern as per the categorization made by Van Orden et al. (Van Orden, van der Rhee and Schmidt, 2011) shown in the Table 2.2.

Airbnb, due its nature of being a platform that allow individuals to be hosted in some other individual's place, was not aiming to attract the best customers of the THI that would pay for the best services usually offered by five stars hotels or luxury accommodations. Instead, it started by focusing on the lower segment of the market, being a low-cost option for users looking for accommodations that considered the prices of hotels excessive. On top of this, Airbnb focused on the idea of being an alternative to experience a stay in a different city as a local, a treatment to the customer much more personal and closer than what is provided by hotels and other accommodations in the THI, creating in this way its

own fringe market. This is essential to understand the encroachment of Airbnb in the Hospitality Industry. Airbnb encroached from the low-end in a fringe market, resulting unattractive to the best customers of the existing market, but with the time it has grown and the listings available on its platform can be as of today as appealing as a five stars hotels (Langfield, 2014). Airbnb offers on its website villas, castles, boats and country houses between other options to attract high-end customers.

After the analysis of Airbnb, the Encroachment Framework has deemed to be the framework with the highest orientation to innovation and its categorization, similar to the Technology and Meaning Framework. It allows a fine analysis of the different attributes of an innovation, but also the analysis of its performance compared to the existing products or services in the market. It clearly differentiates between the attributes that must be present in the product because the consumers expect them, and the attributes that extend the purpose of the product or service and allow the product to differentiate from the already existing ones. The attributes that allows Airbnb to stand out and present itself as an appealing alternative to many users of the THI is not only the price, which allows the low-end encroachment, it is the perception of getting a more social and local experience when using its services. The other attribute where Airbnb stands out is the location. Due to the wide range of properties that Airbnb manages, it can offer the same locations that the THI do but at a much more affordable price for consumers, and in many cases, if offers locations that are not available to the consumers by other means.

5.6   Airbnb Observation in the Republic of Ireland

The results of Section 4.2 show a clear exponential growth of Airbnb since it was born in 2008. This exponential growth is the same as the growth shown by Airbnb worldwide (Ferenstein, 2014), doubling its size every year. As of today, the results of the observation

of Airbnb in the Republic of Ireland shows that its size, in terms of number of rooms offered in its online platform, represents a 4.34% compared to the total number of rooms provided by the THI. This has been achieved in only seven years, or to be more precise, in only four years due to the insignificance of the numbers of Airbnb in 2008, 2009 and 2010. This means that Airbnb in the Republic of Ireland has the same acceptance that is showing all over the world. The volume of rooms that it manages, a 4.34% of the number of rooms managed by the THI, is very significant for a business model radically different to the existing one in that industry. This could represent a symptom of the disruptive character of Airbnb, but to know whether Airbnb disrupts the market radically or not, it should be monitored in the time for a more extended period that this research has done due to time limitations. As the Porter's Five Forces analysis unveiled, the barrier to entry for competitors is relatively low, and the C2C business model is easily replicable, which could potentially stop the exponential growth showed so far. Airbnb has the advantage of the first mover in the market, so it has to make a profit of this advantage to create a differentiation with its potential competitors. So far, it has showed great focus on hospitality and personalized local experience, giving the most importance to customer service and satisfaction.

One of the smart movements that Airbnb has done is, for example, to professionalize the photos of the listings in its online platform. In 2011, Airbnb started offering a professional service of photography that, at the same time, served as a verification mechanism of the host, thus increasing the trust on the platform (Subbaraman, 2011). Looking the graphs at Section 4.2.3 it can be found that 2011 and 2012 were the years in when Airbnb started to have significant a number of users in the platform. This fact could be merely accidental or due to the steps taken by Airbnb to give it a more professional look. Another movement from Airbnb in 2011 to increase the trust in its services was to include the first insurance guarantee after an incident in which one of the Airbnb hosts suffered from a vandalic act

in his property (Arrington, 2011). As of today, Airbnb offers up to $1.000.000 host insurance (Airbnb, Inc, 2015) which makes the idea of becoming an Airbnb host much more appealing than before.

The analysis of the data collected in the Republic of Ireland also exposes a significant fact about the prices per room of Airbnb compared to the prices per room offered by the THI. More than an 85% of the Airbnb listings have a price under the average price, 103 euros, for a room in the THI as per the Hotel Price Index for 2014. This is significant because, given the wide range of accommodation types that are offered by Airbnb, it represents a more economical alternative than cannot be ignored by travellers. It is very likely that this factor has helped Airbnb to grow in the rapid way it has grown in the last four years, and is potentially one of the factors that can help it to keep growing in the future, even if it is not at an exponential rate.

5.7   Airbnb Growth Potential Inhibitors

5.7.1 Losing the First Mover Advantage

Airbnb does not implement any technology that is not available to its potential competitors, making C2C model easily replicable, but it has the advantage of having built a brand well recognized worldwide. If Airbnb loses the first-mover advantage in the market, it could face problems keeping its growth in the same ratios that it has so far. Keeping the focus on providing a personal treatment from hosts to guests, interaction of hosts with the local culture, and raising even more the customer service and satisfaction can keep it leading the market.

5.7.2 Losing Trust from Users

Given the importance of trust in any online platform, Airbnb could see its growth scaled down if the trust level of consumers does not grow accordingly with the growth of the platform during this expansion phase. So far, Airbnb has implemented some mechanisms to increase the trust and confidence among peers in its platform. Verified ID's, trusted reviews system, and a messaging platform between guests and hosts, have definitely played an important role in Airbnb's growth by building trust in its services, but probably the host guarantee, of up to $1.000.000, has been decisive to encourage more and more people to open their homes and act as hosts. Any new steps that Airbnb implements in regards of trust, should be well thought and adapted to local cultures and laws due to the broad diversity brought by the huge number of countries where Airbnb operates.

5.7.3 Local Issues with the Authorities and Legality

As it has been presented in this dissertation, Airbnb is facing issues with authorities and the THI in almost every country where it operates. Authorities claim not only that the Airbnb C2C model eases tax evasion for Airbnb hosts; they claim that, in some cases, the Airbnb model is having an impact in the rise of the prices of properties for rent in big cities like Paris. The aggressive expansion of Airbnb in just seven years has pushed the THI to look for legal formulas to stop or at least limit its business with the help of authorities, which could be interpreted as a sign of the disruptiveness of Airbnb as an innovation in the Hospitality Industry. In cities like for example San Francisco in the U.S., Airbnb has started collecting the occupancy taxes as part of the legislative battle that has largely existed in that city (Gannes, 2014). Airbnb can be considered a 'game changer' in the accommodation industry, and as such it will have to fight for its business with every other player that feels threatened by its new business model.

This chapter has discussed the main findings of this research after the analysis performed on Airbnb as an innovation, but also as a Sharing Economy. The analysis highlights that Airbnb has a huge potential to keep growing quickly as it has done so far, thus improving its position as an alternative to the services offered by the THI. This potential resides mainly in the Sharing Economy model that Airbnb applies to the hospitality services. This potential is available to any other Sharing Economy competing with any established traditional business model. As presented in this chapter, Airbnb will have to face several potential inhibitors that could stop or limit its growth. The ability to overcome them will define its future growth and position in the market as an alternative to the THI.

6   Conclusions

6.1   Introduction

This research aimed to examine Airbnb as an innovation due to its new business model in the Hospitality Industry. Following a methodology based on a quantitative and a qualitative analysis of Airbnb, this research developed the main research question "*Is Airbnb disrupting the Traditional Hospitality Industry?*". This chapter concludes this research and aims to demonstrate that the research question have been answered and discuss the conclusions, limitations and future work on the topic of this research.

6.2   Summary

The analysis of Airbnb as a Sharing Economy carried out in this research has identified, through the review of the existing literature, the emergence of Sharing Economies in very various fields and markets, but more importantly has identified an increase in the interest of individuals to make use of these services as opposed to the services offered by traditional industries. This is in part due to consumers being more price-sensitive due to socio-economical factors like the economic collapse in 2008 (Belk, 2014), and more receptive to lending and sharing as per the European Commission (European Commission, Business Innovation Observatory, 2013), but also due to the increasing awareness of the population towards the overconsumption and sustainability.

One important outcome of this research is the decisive role played by the ICT and the Internet in the expansion and wide adoption of the C2C business model implemented by the Sharing Economies. Without them, Airbnb and other Sharing Economies would not

have been able to move from a local scope to a global scope and compete with the services already offered by traditional industries.

This research has identified Airbnb to be an innovation in the Hospitality Industry due to the C2C business model, very different to the B2C business model implemented by the THI. The analysis of Airbnb within four different Innovation Frameworks brings to light the innovative nature of Airbnb. The four of them identify Airbnb as an innovation in the hospitality services, however only three of the frameworks, the Technology and Meaning Framework, the Blue Ocean Strategy, and the Encroachment Framework, can clearly identify Airbnb as a Disruptive Innovation. The remaining framework, the Porter's Five Forces Framework, has been identified to lack of any mechanism to assess the disruptiveness of Airbnb or any other innovation, giving as an outcome an assessment of the strengths and weaknesses of the subject under study, but not decisive data to state whether an innovation is a Disruptive Innovation or not.

The empirical observation of the Airbnb.ie website has shown an exponential growth of Airbnb since its inception in 2008. The results obtained from the quantitative analysis of Airbnb back up the results of the qualitative analysis of Airbnb within the four Innovation Frameworks. More in particular, the quantitative analysis demonstrates that Airbnb is adopted by consumers, being this criterion the most important from the three criterions defined by Dahlin and Behrens (Dahlin and Behrens, 2005) to the success of an innovation.

This research has identified a common symptom to all Sharing Economies disrupting in some way a traditional industry. After the analysis and review of the literature available, this research suggest that the more legal actions that authorities and the traditional industries take on a Sharing Economy to stop or limit its activity, the more threatening the

Sharing Economy is to them. This common pattern could be treated as an indicator of the disruptiveness of a Sharing Economy in a market dominated by a traditional industry.

The future of Airbnb is promising when the numbers of its seven years of life are analysed, but, in order to keep its success and increment its market share in the Hospitality Industry, it will have to face some challenges that could risk its future growth. The research carried out on Airbnb identifies three major challenges that Airbnb is facing already and that this research consider key for the future of the platform.

1. Maintain the first mover advantage by improving its customer service and raising the customer satisfaction levels. Airbnb should be more aggressive in its advertising offering Airbnb as an alternative to the traditional rental models attracting new users to its platform. Working in partnership with all the ecosystem of satellite companies created around Airbnb will be key to increase customer satisfaction and offer a complete alternative to the THI services. These satellite businesses are cleaning services, key management services, or services that offer to users the possibility of updating their listings prices based on their location and other listings located nearby, ensuring the price set is competitive.

2. Increase the trust in the Airbnb platform and gain the customer confidence by implementing new trust, confidence, and guarantee to the consumer mechanisms to attract new users and maintain the already existing ones.

3. Work together with the local authorities to partner and reach legal agreements that satisfy both parts. With the support from the local authorities, the power of the THI trying to limit the Airbnb activity will be diminished. One of the most important agreements that Airbnb has reached with the authorities is the partnership with the

San Francisco and Portland city leaders to work together to provide shelter after disasters happen by leveraging Airbnb community's resources (Airbnb, Inc, 2014).

6.3   Limitations of this Research

Due to the scope of this dissertation enclosed in a limited timeframe, there have been some limitations in the empirical observation of Airbnb site defined in the methodology proposed on this research. The scope of the data collection of Airbnb has been limited to the Republic of Ireland. The time frame, in which the custom tool to extract data from the Airbnb site has been run, has been defined to be the first quarter of the year 2015, from 1st of January of 2015 to the 31st of March of 2015.

6.4   Future Research Opportunities

This research has defined a well-structured methodology than can be easily replicable at any given point in time and location. Future research extending the timeframe of the empirical Airbnb website observation would be advisable to gain a better understanding of the evolution in terms of growth of the platform during extended periods of time. This extension in the timeframe would also allow mapping important events happening in a particular location to the number of available listings in Airbnb at that point in time, providing some more evidence in the research related to Airbnb's usage patterns. The comparison of the observations performed in different locations would also serve to identify commonalities and differences in the growth as well as usage patterns by different geographical areas.

The methodology defined in this research is extendable allowing the inclusion of more Innovation Frameworks that may be found in a further review of literature.

Further research would also be advisable in regards to the ecosystem of new businesses and Sharing Economies that have emerged around Airbnb providing services that complement the services provided by Airbnb. The observation of these new players could offer further insight on the disruption that Airbnb represents as an innovation in the Hospitality Industry.

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