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DRIVING DEVELOPMENT IN PERIPHERAL AREAS: ASSESSING AIRBNB'S INFLUENCE IN THE DOLOMITES

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Abstract: The collaborative economy, driven by online platforms, is reshaping Europe's economic landscape. In an official document released in 2016, the European Commission estimated that collaborative platforms and service providers within the continent generated a total of 28 billion euros in gross revenues in 2015. This marked a significant doubling of revenues, particularly in key sectors like passenger transportation, family services, technical and professional services, and collaborative finance. Projections within the same document suggest that the collaborative economy has the potential to contribute an additional 160 to 572 billion euros to the European economy in the future.

A 2016 Eurobarometer survey revealed that more than half of European citizens are aware of the collaborative economy, with one in six already participating as users. Over 5% of the EU population actively supplies products and services through these platforms. This phenomenon exemplifies the "sharing economy" model, as described by Botsman and Rogers in 2010, enabled by the network technologies of collaborative platforms. This model empowers individuals to share or exchange goods, services, and expertise on a scale previously thought impossible. Three key players participate in this economy: providers of goods and services, users of these offerings, and intermediaries who facilitate interactions through online platforms.

Keywords: Collaborative Economy, European Commission, Sharing Economy, Peer-to-Peer, Economic Transformation.

1. The dynamics of the collaborative economy

In an official document from 2016 (COM, 2016-356), the European Commission estimates the total gross revenues generated in 2015 by platforms and lenders of collaboration services within the old continent at 28 billion euros, with a doubling of revenues, compared to the previous year in the five key housing sectors, i.e. passenger transportation, family services, technical and professional services and collaborative finance. The forecasts reported in the same document also announce that, in the future, collaborative economy could bring the European economy from 160 to 572 billion euros of additional turnover. In 2016, a Eurobarometer survey showed not only that more than half of European citizens know about collaborative economy, with one in six being already a user, but also that more than 5% of the EU population now supplies products and services through such platforms. What is being confirmed, in other words, is the new model of "sharing economy" which, as described by Botsman & Rogers (2010), driven by the network technologies of collaborative platforms, is allowing each individual to share or exchange things or professionalism in ways and on a scale that until yesterday would have been impossible. Three categories of subjects participate in this economy: those who provide goods, services, time or skills, users of these services or goods, and intermediaries allowing communication between participants

through online technological platforms as well as the successful transaction that may be with or without profit (EU 2016, Frenken et al., 2015). Moreover, they can foresee the transferability of property (see the cases of Craigslist, Poshmark or eBay) or simple sharing (see the case of Zipcar, Couchsurfing or Airbnb). What distinguishes this market is that in most cases those who make goods and services available are private users who turn to peers (peer-to-peer) and on an occasional basis. However, the boundary between peer services and professional activity in other cases is not always very clear. In this regard, the European Commission (COM, 2016-356) notes that each Member State is adopting different criteria of distinction: some divide the services provided to obtain remuneration from those based on the simplest reimbursement of costs, others are based on thresholds related to generated income and the regularity with which the service is provided so that some States would seem ready to exempt the license requirement from small-scale passenger transport services capable of generating incomes below certain limits or, as happens in the housing industry, not to foresee the need for particular authorizations or registrations for those who intend to share their own property for example for less than 90 days a year.

The success of the sharing economy is to be found in several factors. On the one hand, economic motivations due to the most recent economic crisis or, in general, the opportunity to be able to safeguard one's own portfolio pushing many people to browse and, if necessary, actively use some peer-to-peer platform. These aspects are examined in greater depth, for example in Belk (2010) and Lamberton & Rose (2012). On the other hand, the explosion of sharing economy is strongly due to the advantages induced by the specific technological and relational environment in which it takes shape and is regulated. Belk himself (2014) notes that ICT, and, in this case, the Internet and Web 2.0, obviously plays such a pivotal role that these sharing practices are strictly dependent on and conditioned by these tools. The most successful global online platforms allow access to and comparison of a multitude of goods and services, their evaluation with reviews and the activation of interesting dynamics of growth in value. Resnick & Zeckhauser (2002) highlight how service providers have introduced reputation mechanisms to overcome the information barriers that can exist in doing business with strangers, by fueling trust. Gansky (2010) notes that every time a service provider respects its promise made on the web, it strengthens the trust link with the web community by activating a "virtuous circle of trust" powered by social networks. Furthermore, this allows to gather more and more information about users and their needs, feeding information that can be activated to customize and improve the offer again. This aspect is also a subject of study by the European Commission, which explains this particular form of trust as a crucial element that facilitates the encounter between supply and demand and as a real tool that includes reviews and assessments, verification of identity mechanisms, etc. (EC 2017). Demary & Engels (2016) note that the development of platforms is based on indirect network effects and economies of scale due to the number of users that obviously allow for considerable gains in terms of efficiency. Finally, others focus on the social, ideological and ethical aspects underlying participation. W. Wirtz et al. (2010) refer to "social identity" to indicate how Internet users are increasingly looking for a sense of "belonging" to specific Web interest groups by managing their image in these on-line environments. Being a participant as a user of a peer-to-peer platform means being part of a community and, thanks to the technologies mentioned above, being able to continually expand your connections with other members sharing similar profiles, interests and goals. Sharing of purposes does not simply concern the transaction of goods or services, but may also involve more general purposes. If even originally the open source and sharing idea originated from movements supporting the so-called software - see Raymond (1999) for example - today, the practice of sharing can be traced back to the intention of sharing more sustainable consumption as the purpose of optimizing the environmental, social and economic consequences of consumption, in order to meet the needs of current and future generations (Luchs et al., 2011).

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2. Peer-to-peer platforms in tourism and the impact of Airbnb at the destination level

These motivations can justify the expansion of sharing economy also in the tourist accommodation sector, which turns out to be one of the privileged sectors where to always experiment new solutions centred on the development of P2P (peer-to-peer) platforms (COM, 2016-356). A study carried out for the European Commission in 2018 (DG GROW, 2018) highlights how "the housing sector is the largest collaborative economy market in Europe in terms of transaction volumes and peer participants, generating between them every year 6.6 billion Euros of expenses and 4.1 billion Euros of revenue". PwC (2016) estimates that the P2P housing sector shows a higher transaction value than transportation, collaborative finance and combined on-demand services, for a total of 15.1 billion Euros, whereas platform revenues are estimated at 1.15 billion Euros of revenue per year (lower than in the case of transportation). The accommodation sector is made up of short-term rentals (for example Airbnb or Wimdu) or short-term exchanges (e.g.LoveHomeSwap, HomeAway) and can have as its object the entire property, a room, a bed, the main or secondary residence.

Airbnb is undoubtedly the online platform that provides for the greatest offers of peer-to-peer housing. Founded in 2008 in the United States, today this platform hosts over 2 million properties in over 190 countries, particularly in Europe. The primacy is held by Paris. It therefore seems clear that this offer has now formed an absolutely additional market to the traditional receptive one, and many scholars are questioning the consequences of this new phenomenon, especially in terms of competitive advantages, management models and regulatory needs (Bertocchi, Camatti & Van der Borg, 2018). From the point of view of efficiency and cost reduction, a study contained in the documents annexed to COM, 2016-356 (EC, SWD, 2016) aims to highlight potentially significant differences in the business models of these two offers. It shows how most of the potential efficiencies in the P2P housing business model derive from the effects of the market (network) and from the lower capital inputs; these are mainly due to the lower contribution needed to start up the business and manage properties, since they are already purchased and their general expenses are partly covered by ordinary private property management costs. Notwithstanding this, the comparative efficiency of work inputs as a whole is still unclear. In terms of efficiency and cost reduction, yet from the consumer's perspective, we see that the collaborative business model based on a 2P2 digital platform is able to provide advanced services guaranteeing the possibility of secure payments and, also thanks to the reduction of the aforementioned costs,

To offer highly competitive prices allowing anyone to go on holiday (see also Permalink, 2013). Faced with this scenario, there are several studies on the effects that this offer can have on the traditional market. In particular, Zervas et al. (2016) show how Airbnb has had a negative effect on the income of hotels in Austin and that the response to prices, particularly during peak demand periods such as during the South by Southwest festival, has led to a decrease in rates in favor of consumers. Xie& Kwok (2017), however, observe how other studies (for example, Corsun et al., 2016; Lane and Woodworth, 2016, Alvarado et al., 2016; Haywood, 2016) report both positive and negative effects on the traditional receptive market. Cheng's work is more proactive (2016) in that it shows that the tourist offer of sharing economy encourages the mobility of people by pushing the traditional receptive market to innovation, by adopting new business models. The research studies on the consequences on the territory and the local economy are still very few. Airbnb states that 79% of its users want to explore a specific neighbourhood, 91% of travellers want to "live like a local" pointing out that 74% of Airbnb accommodations are outside the main hotel areas. Also, according to Airbnb studies reported on the official website, its travellers stay longer and spend more, staying 2.1 times longer than other tourists and spending 2.1 times as much by concentrating 42% of expenses in the neighbourhood where they are staying. Finally, with regards to the supply side, Airbnb notes that 53% of the hosts say that the possibility to rent useful in that it helped them pay for their own homes and that 48% of the income is used to pay for regular home management expenses, such as rent and food. However, other studies note that the same success is indirectly fuelling gentrification effects and rising

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property prices. Wachsmuth & Weisle (2018) say that Airbnb is limiting the number of long-term New York housing, for example, causing an increase in median rent throughout the city and gentrification processes. These aspects are also taken into consideration by Schneiderman (2014). Fang et al. (2015) set the objective of evaluating the effect of the entry of sharing economy on employment in the local tourism sector and highlight how, in their case study, the advent of sharing economy has had a positive impact on the entire tourism industry and has generated new job positions following the increase in tourists caused by lower costs at least until it was offset by the loss of hotel jobs. In the EPRS note (EPRS, 2015), according to an OECD study, collaborative economy companies contribute to attracting tourists even to lesser-known destinations, also citing a study by the Observatoire Valaisin du Tourisme of 2016, which states that Airbnb has contributed to expanding the niche market of trips in some Swiss cities, thus overcoming the problem of the high cost of overnight stays in hotels in the considered areas.

The effects of sharing economy, in this case Airbnb, does not seem to converge towards a single interpretation and further research on the subject seems more necessary than ever.

In addition, what literature does not yet seem to have taken into consideration, are the possible effects of this phenomenon in relation to the specific features, limits and criticalities of tourism owned by a tourist destination as well as its specific life cycle, considering, for example - as we intend to do in the present work - the effects of sharing in those most remote areas already characterized by a scarce traditional offer, both of the receptive and other tourism sectors, with the need of offer requalification and difficulties to raise capital.

3. Methodology

The methodology applied to this research falls into the category of "mixed methodology", capable of applying the quantitative method of data analysis, by inserting a qualitative approach, in this specific case represented by the quality of the experience.

Data from the Airbnb peer-to-peer platform can be considered mixed in nature. The dataset that is used for this research was purchased by a company able to do online scraping on the Airbnb site and to reprocess the data by providing reports on the price and revenue of the structures. The data were processed in a raw form to obtain databases useful for the research developed. The data used have temporary specificities (e.g. number of reviews received from a structure), variables relating to the last 12 months (annual revenue, number of reservations) and fixed structural variables (geolocation, type, physical characteristics). Both datasets were purchased in November 2016 and some values refer to the period October 2015 - November 2016.

To study the impact that tourism sharing economy related to the tourism reception sector in a territory as wide as the one examined in the present study, i.e. the territory of the Veneto Dolomites in the province of Belluno, it is appropriate to use a typology of analysis that takes into account the characteristics of the object studied, in this case Airbnb listings, the characteristics or rather the experiences of those who used the object of analysis, and, finally, its geographical character, its position in space. In order to pursue this aim, a simple spatial autocorrelation (through the calculation and application of the G-score) and a spatial autocorrelation with two variables were applied.

3.1 Spatial autocorrelation

In statistics, the Moran Index or more simply Moran's I is defined as the measure of spatial autocorrelation. In 1950 Moran introduced the first measure of spatial autocorrelation to study stochastic phenomena distributed in two or more dimensions of space.

$$I = \frac{n}{S_0} \cdot \frac{\sum_{i=1}^{n}\sum_{j=1}^{n} w_{ij}(x_i - \bar{x})(x_j - \bar{x})}{\sum_{i=1}^{n}(x_i - \bar{x})^2} \quad [1]$$

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Moran's I [1] is analogous to the correlation coefficient and the way it varies
from +1 (strong spatial autocorrelation) to 0 (absolute randomness) to -1 (strong negative autocorrelation); it is applicable to quantitative characters ordered on a range or ratio scale.
In order to identify areas of a territory characterized by a strong spatial interaction, Getis and Ord associatea set of statistical tools called G to Moran's index I, as a measure of spatial association, including the "overall measure" [2]

$$G(d) = \frac{\sum_i \sum_j w_{ij}(d) x_i x_j}{\sum_i \sum_j x_i x_j} \quad [2]$$

whereby $x_i$and x_j represent the values of the variable in the territorial units *i* and *j*, W (*d*) is a symmetric matrix of distances, whose elements assume value 1 if units i and j are located at a predetermined distance (or range of distances) (*d*) and 0 otherwise.
G (*d*), therefore, appears as a ratio between the sum of products of x_i and x_j observed in the units i and j
given a distance (*d*), and the same sum of products calculated on all territorial units. G (*d*) varies between 0 and 1.
The spatial correlation tests the hypothesis that some structures with their attributes and their analyzed variables are distributed either randomly or not in space. If this is not the case, a certain level of clustering of structures with similar characteristics is possible. By analyzing the spatial autocorrelation of structures and associated variables thus identifying clusters, it can illustrate and highlight similar spatial areas, which can be analyzed and managed by policy makers based on their similarity (Peeters et al., 2015).
Being able to map clusters is useful "as a method for visual and quantitative inspection of complex data sets" (Peeters et al., 2015, p.148). Although mapping elements thanks to spatial clusters is a technique used in various fields of research and practical application (Getis & Ord, 1992), more recent developments of GIS software have extended the opportunities to test autocorrelation in different ways and in different fields, also in the tourism industry. An approach to autocorrelation and cluster mapping is hotspot analysis.
A cluster considered as a hotspot is represented by a group of structures with a high attribute value surrounded by other structures with a low value. When the sum of these attributes is different from the sum of all the analyzed variables (very high z-score), and the difference is too wide to be a result of a random choice (very low p-value), then the cluster that is outlined is considered as a hotspot (Getis & Ord, 1992; Ord &Getis, 1995; Mitchell, 2005). Clusters with a low value compared to other variables and other clusters are considered cold-spot zones. The presence of hotspots and coldspots indicates the relationship between the location of the analyzed variable and the value studied, a relationship that can be useful for mapping and characterizing territories, destinations or city centres.
Hotspot analysis was performed by means of the GeoDa and ArcGIS software, which adopts Getis-Ord Gi * statistics (Getis& Ord, 1992) to manually determine the difference between the parameters (scale for analysis, type of weight used, inclusion or non-inclusion of outliners, etc.).
The open source software GeoDa offers the possibility of realizing an "optimized hotspot analysis" through the use of Getis-Ord Gi * statistics, deriving the analysis parameters from the input data itself. Three parameters are used in this method to identify hotspot zones: the identification of the outliers, the aggregation of the incidences of the variables and the determination of the scale used for the analysis. The outliers are determined by calculating the nearest average distance of each individual structure. When the average distance is more than three times

distant from the standard deviation, the structure with this characteristic is considered an outlier. The structures were then aggregated using a fishnet polygon.

The analyzed entities have been superimposed by a polygon (network) grid and aggregated on the basis of the value of the variable in each polygon cell. These have been used as input for the optimized hotspot analysis. After the analysis, the z-score and p-value of the polygons have been attributed to the characteristics of each structure. The outliers are excluded from the analysis because they would have a strong influence on the results of the hotspot analysis, due to the distance they have from the main analysis area (city centre). Finally, the analysis scale is determined by using a weight matrix calculated on the minimum distance between two structures. The Optimized hotspot analysis also uses spatial autocorrelation through the Moran index to determine the optimal distance, until the analysis finds a z-score peak. Alternative methods for determining the scale of analysis are also possible. Sometimes, they turn out to be necessary when at the basis of the analysis there are very large datasets or whenever the z-score cannot be determined (for an example see De Valck et al., 2016). The result of the analysis hotspot can be explored and interpreted visually on a map, thus determining cluster areas with high, low or no significant values.

3.2 The two-variable spatial autocorrelation

With reference to the Moran statistics Index it is possible to provide a useful graph with complementary and integrative information. This is the Moran Scatterplot, which shows in a Cartesian graph on the *x*-axis the normalized variable *x* and on the ordinates the spatial delay of variable (W*x*- where W is the spatial weigh of the correlation) also normalized. Moran's Index is represented by the angular coefficient of the linear relation between the two variables reported on the Moran Scatterplot axes. If, therefore, the points are dispersed between the four quadrants, this will indicate the absence of correlation (the angular coefficient is zero). If, instead, there is a clear relationship, the Moran Scatterplot can be used to distinguish different types of spatial correlation. If, in fact, the points are mostly in the North East and South West quadrants, we will have a positive correlation and we will be able to distinguish between those cases (in the North East quadrant) where the relation is established for high values both of *x* (the region *i*) and of (W*x*) (neighbouring regions a): in this case we talk about a High-High relationship, and those where (in the South West quadrant) values are both low, giving rise to a Low-Low relationship. If the point concentration is greater in the other two quadrants (North West and South East), then the correlation is negative. Moreover, for the points shown on the North West quadrant we will have associated low values of *x* and high values of (W*x*) (Low-High relation) and vice versa in the South East quadrant (High-Low relation). The results of the Moran Scatterplot can be shown on a map in order to geographically distinguish areas with different types of correlation (High-High, Low-Low, High-Low, Low-High). In particular, in this way it will be possible to verify whether the s united by a certain type of correlation are contiguous with each other and, therefore, form clusters. Moran's Scatterplot also has the important function of highlighting possible limit cases (outliers) so that they can be eventually excluded from the analysis if they account for anomalous cases.

This type of analysis allows you to expand the hotspot analysis by adding a variable to the calculation. The results will no longer be three (hotspot areas, colds pot areas and areas which are non-significant for the type of analysis), but there will be 5 outputs structured as follows:

- Both variables with high HIGH-HIGH values;
- The first variable with a high value and the second with a low HIGH - LOW value;
- The first variable with low values and the second with high LOW - HIGH values; • Both variables with a low LOW - LOW value;
- Non-significant areas.

4. The case study: The Veneto Dolomites

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In this section we will develop an in-depth analysis linked to a tourist theme in the Veneto region (north est of Italy), with the aim of analyzing the impact on destinations and the potential for developing and / or reviving territories derived from a non-traditional receptive market, i.e. the Airbnb platform. The theme examined relates to the Venetian mountains defined by article 11 of the regional law n. 11/2013 which describes the territorial areas of tourism systems.

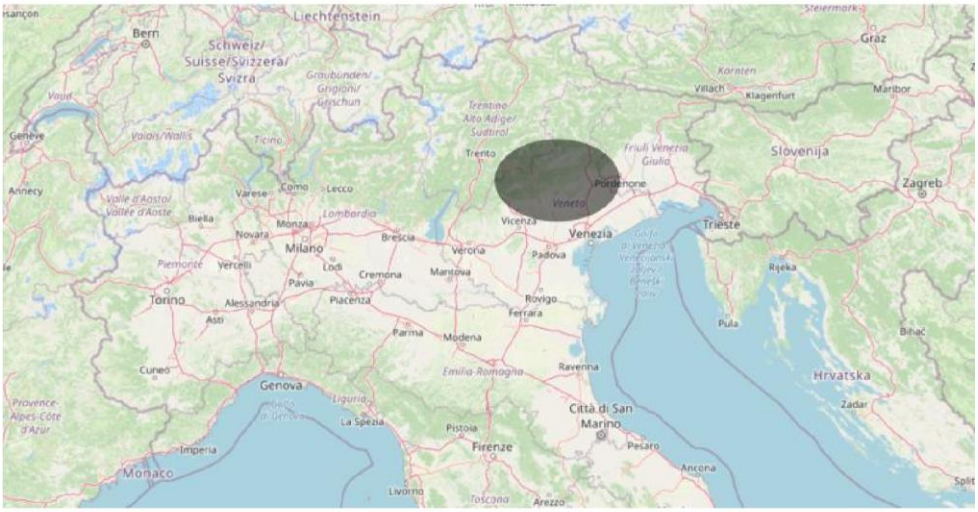

Figure 1 Venetian mountains in the north east of Italy

4.1 Airbnb accommodation offer in the Veneto Dolomites area

In this area there are 1,261 structures divided into 939 represented by entire houses and / or entire apartments, 234 private rooms and only 2 shared rooms; there are also 89 adverts that do not yet indicate the type of service to be offered. The most representative destination is Cortina d'Ampezzo with 267 structures, followed by the municipality of Rocca Pietore with 73 structures, Belluno (72), San Vito di Cadore (59), Falcade (54), Sappada (54), Auronzo di Cadore (53), Alleghe (34), Borca di Cadore (32) and Forno di Zoldo (28). The receptive structures are quite large, in fact 426 have only one room, but 432 are two-room receptive structures, 208 with three bedrooms and 58 with four bedrooms. Only 21 facilities are studios. Of the total number, 810 are apartments, 156 are Bed & Breakfasts, 132 private houses, 31 "cabin" and 17 mountain Chalets. The presence of receptive structures on the Airbnb platform related to this territory has seen a growth in recent years, with a real boom since 2012. The total number of beds in this area potentially accessible through the Airbnb site is 5,672. Cortina d'Ampezzo has been confirmed as the destination with the highest number of reviews 914, followed by Rocca Pietore 647, Pieve di Cadore 390, Belluno 249, Auronzo di Cadore 161, Valle di Cadore 160, Sappada 131, Santo Stefano di Cadore 113, San Vito di Cadore 103 and Borca di Cadore 99. It is worth noting a preference of users for the Cadore area, which finds a thriving market and a request for unconventional accommodation facilities compared to Val di Zoldo. The minimum stay required by the owners of the structures varies generally between one and three days, but there are 190 receptive structures that require a minimum stay of one week. The perceived quality of the customers of the receptive structures is high, concentrated between 4 and 5 points out of 5.

4.2 The revenue of sharing economy in the Veneto Dolomites

The total average of the prices requested for the receptive structures of the Veneto mountain area is 146 Euros per day, 796 per week and 3,080 Euros per month. The average daily price for houses and apartments is 165 Euros, 72.5 Euros for a private room and 31.5 Euros for a shared room. The total daily potential of the territory is 154,728 Euros per day for the houses and 16,966 Euros for private rooms. The average price per week for renting an entire receptive structure is 878,5 Euros, whereas 469 Euros is the price required to book a private

room for a week. The possible weekly turnover of the area is 825,118 for houses and 109,808 for private rooms. The average price for renting a property like a house or an apartment for a whole month is 3,389 Euros, 1,862 Euros for a private room. The potential monthly turnover of entire houses is 3,181,938, whereas the one for private rooms is 435,779 Euros. The average turnover achieved last year was 2,040 Euros whereas the overall turnover for the entire Veneto mountain area was 2,371,172Euros.

The average occupancy rate of the Veneto mountain receptive structures is 0.21, divided by typology of receptive structure: entire houses 0.22, private rooms 0.15 and shared rooms 0.12. The total number of bookings made in the last 12 months was 4,214 divided into 3,334 reservations for houses, 873 reservations for private rooms and only 7 for shared rooms. On average, each facility receives 3.6 bookings a year. Despite a low average number of bookings per receptive structure (some of which have never been booked so far), there may be a high average stay in this area, i.e. 5.4 days. The average stay of those who choose the entire house as a receptive structure for their holiday is almost 6 days, whereas those who choose a private room decide to stay in the area for an average of 3 days.

Some of the receptive structures in the platform require the payment of additional services such as cleaning (average fee requested 63 Euros), the possibility of adding a guest with an average of 25 Euros and the request for a security deposit (approximately 342 Euros). There are 66 accommodation facilities certified by Airbnb with a superhost certificate and only 33 that have a business-ready feature.

4.3 The price, quality and attractiveness clusters of the destination

The results are obtained through a hotspot analysis (Figures 2, 3 and 4), i.e. a type of spatial clustering analysis that shows that there are areas where the value is significantly higher (hotspot) or lower (coldspot) than the ones in the neighbourhood. In short, there is a relationship between the position of a tourist facility and the number of times it is reviewed (intensity of use), or between the place and the average score (quality of experience) - (for more details on the application of the analysis with other data at tourist level see Bertocchi, Van der Zee &Janusz 2016).

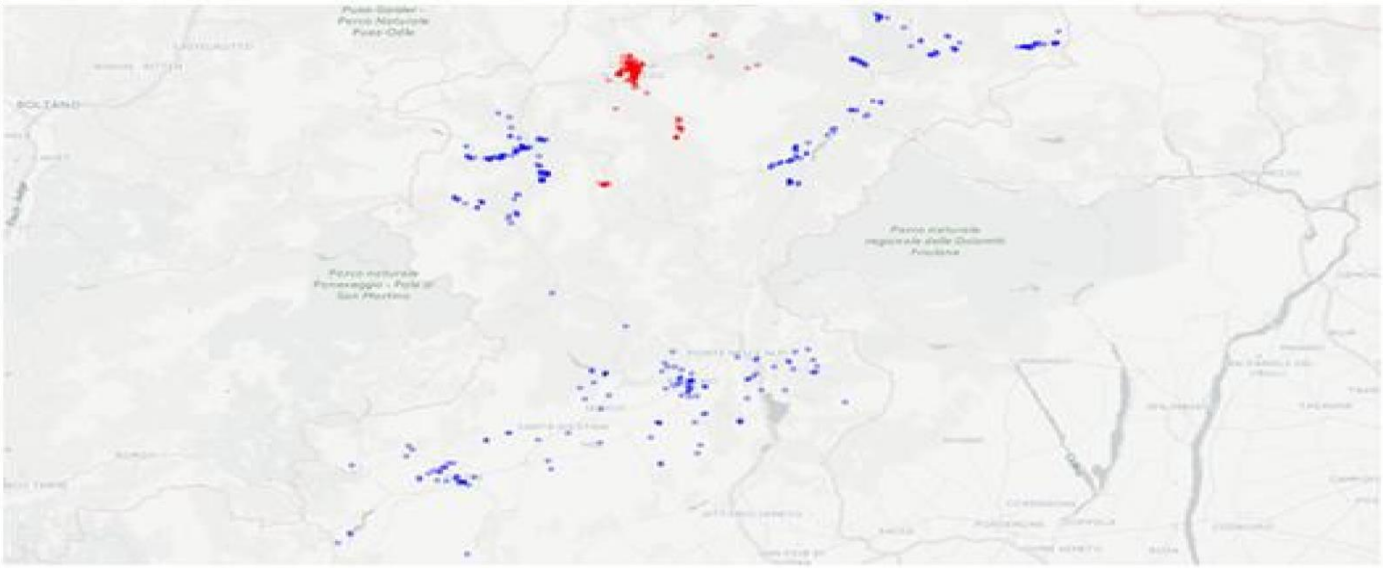

Figure 2 Hotspots of more expensive listings (by price level)

The hotspot concerning the price is concentrated above all in the area of Cortina d'Ampezzo, San Vito di Cadore and Zoldo Alto. The hotspot relating to the perceived quality of the accommodation structures of mountain destinations, on the other hand, rewards other destinations such as those in Val Zoldana, Cadore, which extends to Comelico and the territory of Feltre near the DolomitiBellunesi National Park. The hotspot situation by number

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of reviews is similar to that of perceived quality. In fact, the two mountain areas of Val Zoldana and Cadore and Comelico appear to be the most appreciated and sought-after destinations for mountain thematism tourists.

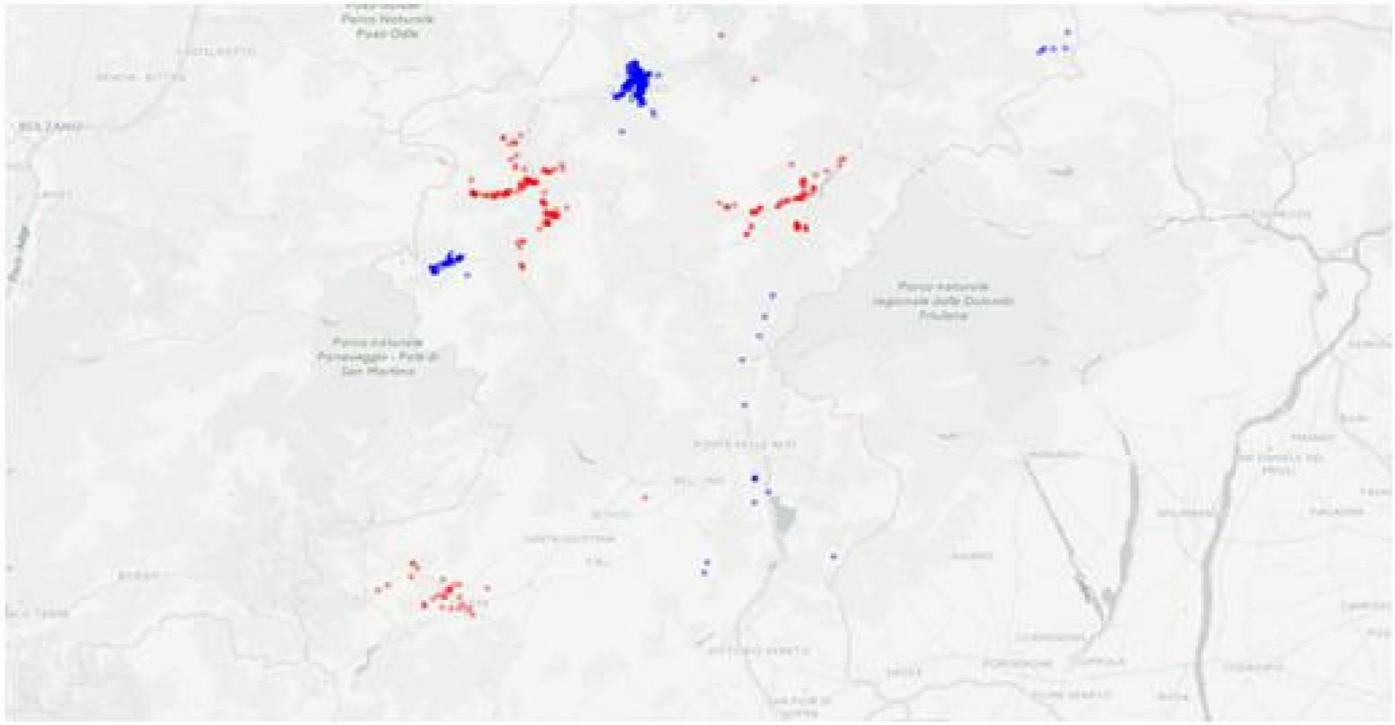

Figure 3High quality hotspot (per perceived quality)

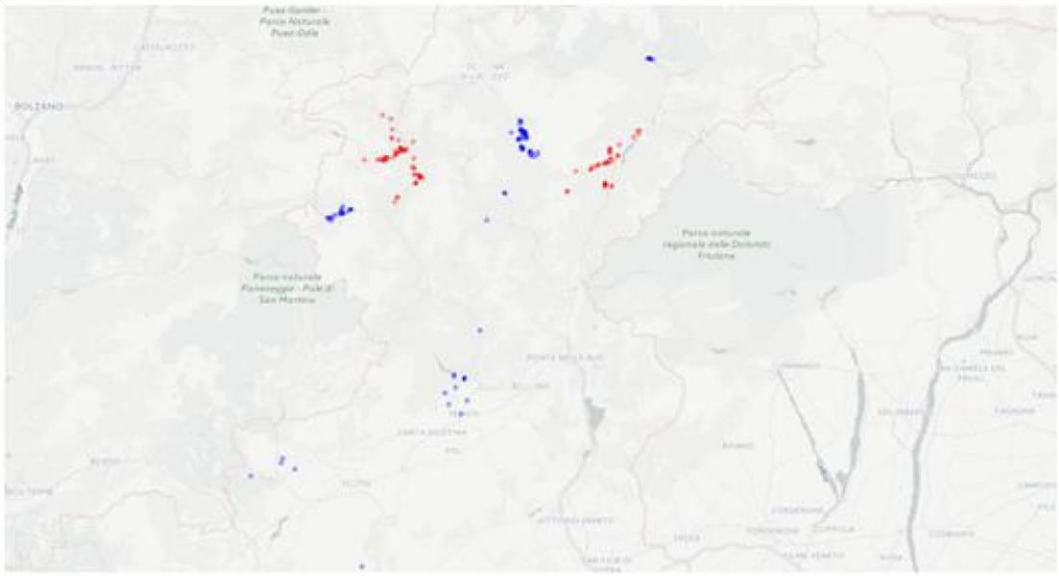

Figure 4 Hotspot of popularity (per number of reviews)

4.4 The potential of the Dolomite territory through two-variable autocorrelation

By crossing two variables, it is possible to analyze the potential and characteristics of mountain destinations in terms of appeal, excellence and criticality (see Figures 5. 6 and 7). As regards the intersection between the variable

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price and the perceived quality variable, the tourist importance of Cortina is also underlined by the presence of excellences in elitist tourism, with high price and perceived high quality (high-high). Even those destinations with a lower prices are perceived by users as high quality accommodation facilities. The reviews given by users are not only limited to services related to accommodation, but represent the tourist experience as a whole, linked to the services used, its location, the destination and the relationship with the host.

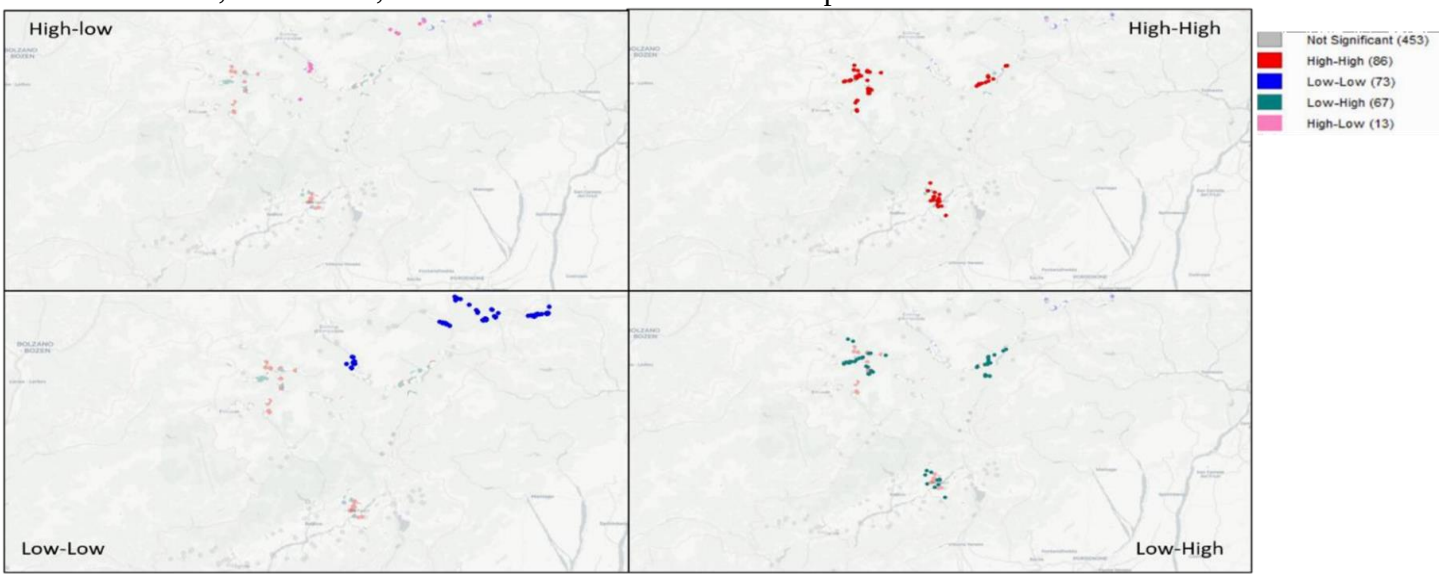

Figure 5 Intersection between price and perceived quality variables

This makes it possible to state that the reviews demonstrate a strong tourist appeal of Cortina as called the "pearl of the Dolomites" as perhaps the most representative destination in the Veneto mountains and the Dolomites, without the tourist being conditioned by the price discriminant.

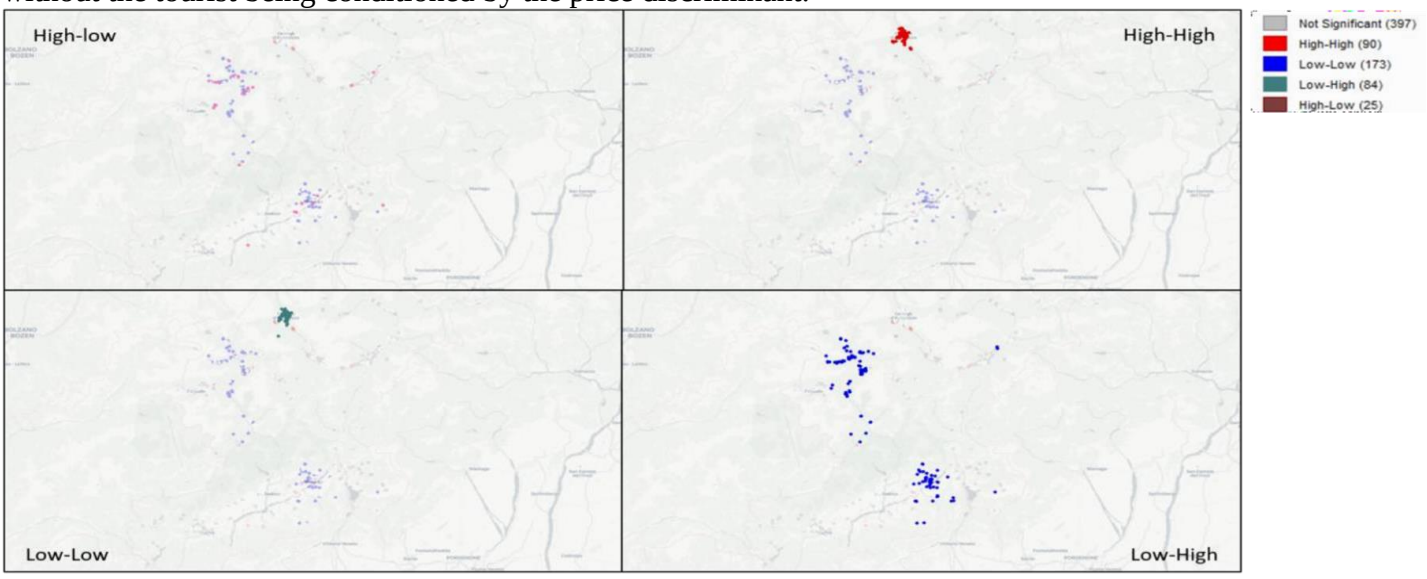

Figure 6 Intersection between price and number of reviews variables

On the other hand, by crossing the number of reviews with the perceived quality variable, it is possible to identify areas of excellence with a high number of reviews and with high perceived quality, critical areas with a high number of reviews and low perceived quality and potential areas and / or developing ones, with low number of reviews and perceived mixed quality.

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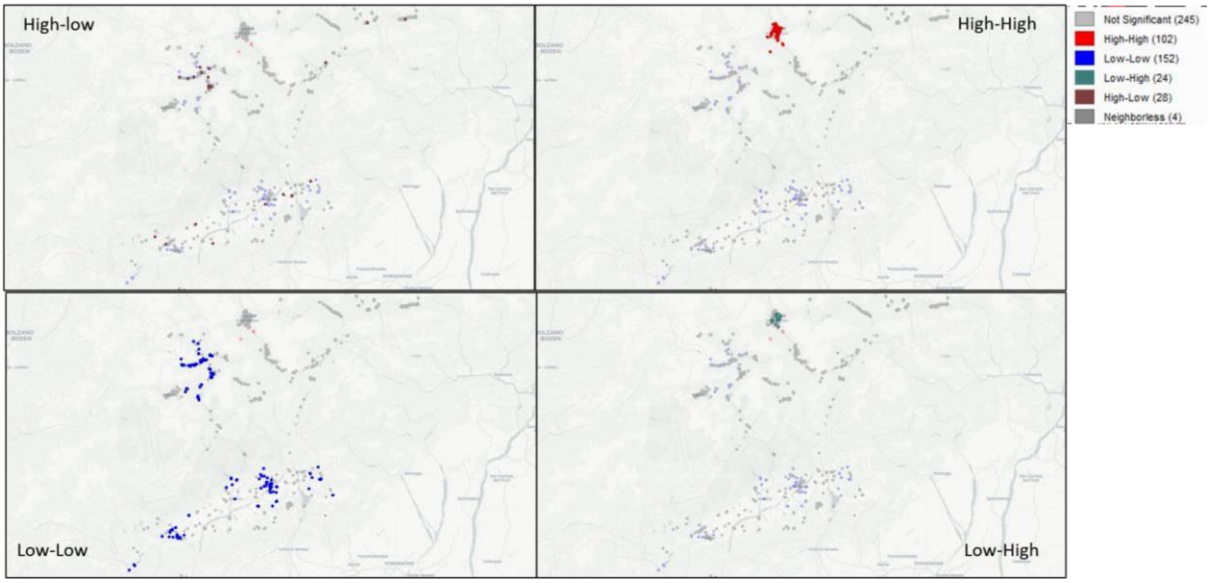

Figure 7 Intersection between number of reviews and perceived quality variables

The destinations that can be defined as excellent are located above all in the Val Zoldana and in the Cadore, with two distinct scenarios: on the one hand, an already mature destination such as Arabba, Costalta di Cadore, which is lesser known yet with potential for local development and Cadore, on the other. It is possible to identify two destinations that display "criticalities" on the Airbnb front, represented by a high number of reviews with low perceived quality, i.e. Falcade and Sappada. These two destinations are undoubtedly tourist areas with a well-developed tradition of hospitality, with large hotels (with lots of beds), valuable and with a strong historical tradition demonstrated by a large number of tourist *repeaters.* However, there is a difference in the governance and promotion of the destination that determines this critical situation highlighted by the autocorrelation analysis applied to Airbnb accommodation facilities. Sappada is active as a modern destination in its "rejuvenation" phase (Butler, 1980) which develops and strengthens its tourism sub-systems (accommodation, catering, shops) through a trade district that strengthens and encourages the presence of hotels and official accommodation facilities with respect to those of Airbnb; on the other hand, Falcade is a destination in its "decline" phase within the life cycle theorized by Butler, in which Airbnb reviews are also able to reflect the scarcity of tourist offers and activities in the destination, beside ski lifts in winter and summer walks.

With its potential for the development of the destination towards an improvement in the offer and a greater number of reviews, Cadore is an area rich in naturalistic attractions and popular traditions which is undergoing a crisis caused by a drop in tourist arrivals and the closing-down of large hotels. The widening of its receptivity, together with its low investment cost, represented by Airbnb can contribute - if properly supported with management activities and destination promotion - to the tourist revival in the area.

Finally, by crossing the price variable with that of the number of reviews, it is possible to identify the most requested and visited destinations (top destinations and new trends), high-priced territories (luxury tourism), competitive territories under development or to be discovered and enhanced. Cortina d'Ampezzo is certainly the most requested Dolomite destinationand is capable of responding to different types of tourism: mass, cultural, naturalistic, urban and luxury. The destination offers facilities at a very high price and average price with a large number of reviews, again emphasizing the attractiveness of the destination. From this last analysis it is possible to highlight the tourist importance of the city of San Vito di Cadore, with similar characteristics to Cortina, thus constituting a valid alternative to the pearl of the Dolomites.

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Through the creation of clusters and autocorrelation it is possible to emphasize the fact that the territory of the high Cadore and Comelico are not sufficiently promoted and marketed, whereas the urban destination of Belluno, which has both a low price level and a limited number of reviews is not perceived as a tourist destination demonstrating its low appeal to Italian and foreign vacationers (table 1).

Table 1 Summary of the Airbnb phenomenon in the Veneto Dolomites

Territory	Number of receptives tructures	Average daily price	Annual Revenue	Average stay	Hotspot Price	Quality hotspots	Hotspot Reviews	Main characteristics of the area
VenetoDolomites	1,261 receptives t ructures	146 euros	2,040 euros	5.4 days	Cortina d'Ampezzo	Val Zoldana Cadore Comelico Feltre	Val Zoldana, Cadore, Comelico	Centrality of Cortina d'Ampezzo, strong potential in the territories of Val Zoldana and Cadore

5. Conclusions and aspects of destination management

This research study offers some innovative insights into the interrogation of spatial data relating to tourism and, more specifically, to sharing economy, in order to obtain directives for its management. The results obtained illustrate the various dynamisms of the Airbnb phenomenon in the two dimensions of the destinations examined, at a wide territory level and at local and urban level. Through these results it is possible to study the global through a local analysis. The clustering of a large tourist area represented by a basic tourist offer linked to the Dolomites yet differentiated by products, traditions and characteristics of the individual destinations, allows us to fully understand the potential, the strengths and weaknesses and the actions to be taken for an effective tourism promotion, while at the same time emerging as sharing economy can also represent a development opportunity that has not yet been completely considered.

Analyzing the territory of the Veneto Dolomites through the preferences of tourists / users and the characteristics of its accommodation offer proves to be useful in order to develop the so-called "philosophy of the Dolomites" illustrated in the overall management strategy by the DolomitiUnesco Foundation, which through the model of network management brings together the various resources of the territory. First management, and then an integrated promotion, allow the peculiarities and characteristics of the territory to respond to the needs and requirements of the modern tourist and the themes of contemporary tourism (eco-tourism, wellness, cultural tourism, sports tourism, luxury tourism, etc.).

Finally, this analysis makes it possible to extract information and transform it into applicable development strategies by a destination management organization through the application of new monitoring methods, control of the phenomenon linked to the collaborative economy and, lastly, for the re-launch and for the development of tourist areas.

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