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Role of smart destination in hospitality enterprises sustainability: an empirical study on booking channels management and revenues

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Abstract

(max 400 words for abstract)

This paper draws on the literature on innovation in tourism industry to investigate how the promotional tools developed by destinations – websites for information and booking, apps, e-commerce websites, tourist cards, BI and CRM software – may contribute to long-term development of accommodations in the territory. It is assessed by analysing impacts on booking channels, direct and intermediated (both online and offline), and revenue. Hypotheses are tested with a generalized linear model and an ordered logistic regression on data retrieved from 1,226 accommodations distributed in the Italian territory. Empirical results evidence the contribution of smart destinations in increasing the competitiveness of the tourism firms in the same area.

Keywords – Smart destination, Accommodation, Digital marketing, Booking channels, Revenues

Paper type – Academic Research Paper

1 Introduction

Rapid development of the Internet and wide introduction of ICTs in tourism and hospitality industry have modified the competitive landscape (Hojeghan and Esfangareh, 2011). New virtual actors, such as Online Travel Agencies (OTAs), travel metasearch engines, infomediaries (i.e. Google, Facebook) and sharing economy players, have entered the sector and gained importance. For accommodation facilities, this implies considerable complexity to manage the relationships with customers and an imbalance of power, since they largely depend on online intermediaries to reach a wide customer base, paying commissions up to 30% of the transaction (Di Cesare, 2014; Buhalis and Law, 2008). On the other hand, the introduction of innovations has opened new possibilities of collaboration. In particular, partnerships could arise between Destination Management Organizations (DMOs) and accommodation facilities located in the same territory as they are interwoven realities (Correia and Brito, 2014; Buhalis and Molinaroli, 2003): while DMOs create and maintain the touristic demand, accommodations provide the supply.

Despite the growing interest of the literature on the topic, at our best knowledge the benefits of partnership among the industry have not been analysed with quantitative data. For this reason, the aim of this paper is to assess the effectiveness of such collaboration for accommodation facilities based on the usage of digital tools. Research draws on 1,226 accommodations located in the entire Italian territory interviewed during 2015. The empirical part uses a generalized linear model and an ordered logistic regression to measure the impact of use of digital tools developed by DMOs on revenue and booking channel management.

The rest of the paper is organized as follows. In Section 2, we present the theorical background and research questions. Section 3 is devoted to model and data description. The empirical analysis is conducted in Section 4. Section 5 concludes.

2 Literature review

2.1 Theoretical background

The literature has largely underlined the tourism industry has been affected by a rapid change (Firoiu and Dodu, 2010) due to the introduction of the ICTs (Information and Communications Technologies) that have assumed a central role in its development and

growth (Buhalis and Law, 2008). The transformation in the competitive landscape (Hojeghan and Esfangareh, 2011) led the birth of new virtual actors and the creation of new market relationships (Aldebert, Dang and Longhi, 2011) with consequently changes in the market share and bargaining power (Buhalis and Law, 2008). Above all, OTAs gained the greatest popularity, but also players who do not sell directly to the final customer but promote the tourist offers are assuming an increasingly important role (Podu, 2013). As a result, service providers experiment a more complicated management of relationships with their customers, who now interface with a large number of actors (Mihălcescu and Sion, 2011; Ruiz-Molina, Gil-Saura and Moliner-Velázquez, 2011). More specifically, in the hospitality industry, the survival of accommodation facilities is threatened by OTAs that leverage on low-cost offers and high commissions (Buhalis and Law, 2008). These changes, in addition to the fragmented nature of the tourism industry, should stimulate the many actors to develop entrepreneurial networks, supported by ICTs, for the creation and delivery of tourism products and the development of common resources (Buhalis and Molinaroli, 2003). However, the sustainability of these cooperative relationships is confined to the return gained by each single side (Berné, García-González, García-Uceda and Múgica, 2015). Common interests are expected for tourist destinations and accommodation facilities situated in the same territory since they are related entities; such collaborations could result into positive outcome. In fact, the destination is one essential motivating factor behind the tourists' decisions, which in turns are the result of the marketing strategies adopted by its various stakeholders. Consequently, touristic enterprises have to market both their own product and the area as a single unified product. Marketing a tourist destination is often difficult to organise, since there are many actors involved, all with their own goals that have to co-exist (Grängsjö, 2003). They need to adopt innovative methods to strengthen their competitiveness. The spread of ICTs is large; they can be used both for operational and strategic objectives (Buhalis, 1998), affecting not only the volume of information exchanged, but also the value of long-term relationships (Firoiu and Dodu, 2010). In addition, the information-intensive nature of the industry should push enterprises to rely on Big Data, considered the new key source for value creation. Through datamining and analytics techniques the knowledge exploited from tourists' data can be transformed into competitive assets (Del Vecchio, Mele, Ndou and Secundo, 2018). The available technology, therefore, contributes to provide better services and offer valuable

experiences for tourists and to create wealth, profit, and benefits for the organizations and destinations (Boes, Buhalis, & Inversini, 2015). Technology is the enabler to network, as internet tools are instrumental in facilitating tourist destination to develop such dynamic connections (Del Vecchio, Mele, Ndou and Secundo, 2018).

Innovative destinations, making use of websites and mobile apps, communicate with tourists with the aim to promote and raise their awareness on both the destination itself and the tourism firms (Gretzel et al., 2000). Moreover, in order to facilitate the tourist experience and increase the use of tourist services, DMOs in collaboration with the tourism destination stakeholders realize the tourist cards (Zoltan and Masiero, 2012). They are cumulative tickets that allow the tourists to access a range of services offered by destination at a total price lower than single purchases. The major benefit for service firms lies on their informative power: companies who choose to join the program have the opportunity to receive useful information to profile visitors, gain insight about their consumption behaviour and model appropriate marketing actions (Angeloni, 2015). Business Intelligence (BI) and Customer Relationship Management (CRM) software are other tools DMOs can make available to help accommodations to make a clever use of customer data and consequently develop a well-addressed communication, with relevant and personalized contents that push people to perform the desired action (Milović, 2012).

Thus, destinations assume a significant role within the tourism context as they promote the tourist offers without selling them directly to customers (Podu, 2013). Accommodation facilities could benefit from their support for both increasing sales and shifting the received bookings from intermediated channels to direct ones. Thanks to a well-managed distribution system, they can make a difference in the market, becoming leading companies instead of struggling to survive (Kotler et al., 2013).

2.2 Research objective

Despite the growing interest of the literature on the topic, empirical researches remain scarce. This paper investigates how the digital tools developed by destinations – websites for information and booking, mobile apps, e-commerce websites, tourist cards, BI and CRM software – may contribute to long-term development of accommodations in the territory, in terms of booking channels and revenue. In specific, their contribution is considered positive if they increase revenues and favour direct bookings and diminish the

intermediated ones, as they are subject to fees. Thus, following hypotheses are formulated:

Hypothesis 1. *Websites for information and booking, mobile apps, e-Commerce website, tourist card and BI and CRM software will be positively associated with direct bookings.*

Hypothesis 2. *Websites for information and booking, mobile apps, e-Commerce website, tourist card and BI and CRM software will be negatively associated with intermediated online bookings.*

Hypothesis 3. *Websites for information and booking, mobile apps, e-Commerce website, tourist card and BI and CRM software will be negatively associated with intermediated offline bookings.*

Hypothesis 4. *Websites for information and booking, mobile apps, e-Commerce website, tourist card and BI and CRM software will be negatively associated with destination intermediated bookings.*

Hypothesis 5. *Websites for information and booking, mobile apps, e-Commerce website, tourist card and BI and CRM software will be positively associated with revenue.*

3 Method

3.1 Model

Hypotheses are tested with two statistical models. A generalized linear model with a binomial distribution and a logit link function is used for the dependent variables related to booking channels, which are proportional. An ordered logistic regression is implemented for the variable indicating the percentage of increase and decrease of revenues compared to the previous year, which is divided into ordered classes.

3.2 Data and variables

Data are from accommodations distributed in the Italian territory, interviewed in 2015 with CAWI (Computer Assisted Web Interviewing) methodology. The survey consisted of 37 questions, in addition to the request of personal data, and has been structured into five sections: technological equipment, data management and communication with customers, promotional activities to attract new customers, reservation channels and impressions on future. 24,407 accommodation facilities have been contacted; 2,016 are

the questionnaires gathered, with an 8% redemption rate. High nonresponse rate can be imputed to many causes: period of survey administration – during summer – coincided with the most work intensive months for accommodation facilities; low engagement with research study since they were contacted only by email; considerable length of the survey and complexity of some questions. Final sample, after the elimination of incomplete questionnaires, consists of 1,226 accommodations. Panel data is statistically representative of the population of accommodation facilities situated in the country, as resulted by a comparison with the data from Italy's National Statistics Institute (Istat).

There are five dependent variables, one for each hypothesis to be tested. *Direct_bookings*, *Intermediated_online_channels*, *Intemediated_offline_channels* and *Destination_intermediated_channles* are proportional variables with values from 0 to 1, which represent the percentage of bookings coming from the related type of channel. *Direct_Bookings* are bookings received from a direct contact of the client (e.g. by email, phone, walk-in, website, app). *Intermediated_online_channels* are intermediated bookings (e.g. from OTA, metasearch) through online channels like websites and apps. *Intemediated_offline_channels* are the ones coming from traditional means, namely travel agencies and tour operators. *Destination_intermediated_channels* are bookings intermediated by DMOs. The last variable, *Revenue*, is ordinal divided into six classes, according to the percentage of increase or decrease of revenue compared to the previous year (1: < -10%; 6: > 10%). Independent variables are binary, taking value equal to 1 if the linked promotional tool provided by the destination is used by the accommodation facility. The selection of the digital tools is carried out taking into account their spread, accessibility and usability. According to this criterion we've included in the models websites, mobile apps, tourist cards and BI and CRM software. Summary statistics of the variables employed in the analysis is provided in Table 1.

Table 1 Summary statistics

Variable	Mean	Std. deviation	Min	Max
Direct_bookings	0.4520	0.2752	0	1
Intermediated_online_channels	0.4152	0.2779	0	1
Intemediated_offline_channels	0.0999	0.153	0	1
Destination_intermediated_channels	0.033	0.1021	0	1
Revenue	3.6256	1.3942	1	6
Website_Info_Book	0.6852	0.4646	0	1
Mobile_app	0.1525	0.3597	0	1

Website_eCommerce	0.1166	0.3211	0	1
Tourist_card	0.3613	0.4806	0	1
BIandCRM_sw	0.0693	0.2541	0	1

Obs: 1,226

4 Results

4.1 Main results

Table 2 shows the output of the generalized linear model, while Table 3 presents the results of the ordered logistic regression.

Table 2 Generalized linear model results

	Direct_bookings		**Intermediated_online_ channels**	
	Coef	***p-value***	***Coef***	***p-value***
Website_Info_Book	.1216359	**0.092***	-.2693717	**0.000****
Mobile_app	.0321509	0.727	-.0771829	0.417
Website_eCommerce	.0733814	0.457	-.1282451	0.219
Tourist_card	.124955	**0.077***	-.0543885	0.459
BIandCRM_sw	-.1035951	0.370	-.0043005	0.972

	Intermediated_offline_ channels		**Destination_ intermediated_channels**	
	Coef	***p-value***	***Coef***	***p-value***
Website_Info_Book	.1928427	**0.095***	.7574764	**0.004*****
Mobile_app	.1014701	0.438	.0078409	0.972
Website_eCommerce	-.1025447	0.532	.4904055	**0.066***
Tourist_card	-.1327132	0.206	-.1826409	0.359
BIandCRM_sw	-.0298011	0.872	.6068399	**0.037****

Obs: 1,226. **** p < 0.001; *** p < 0.01; ** p < 0.05; * p < 0.1

Table 3 Ordered logistic regression results

	Revenue	
	Odds ratio	***p-value***
Website_Info_Book	.7828108	**0.039****
Mobile_app	1.340244	**0.067***
Website_eCommerce	.89754	0.531
Tourist_card	.9932481	0.953

BIandCRM_sw	1.081171	0.713

Obs: 1,226. **** p < 0.001; *** p < 0.01; ** p < 0.05; * p < 0.1

Nine coefficients resulted significant. In particular, one of them has a p-value of 0.000, one below 1%, two below 5% and five below 10%. The highest coefficients are related to the model with destination booking channels as dependent variable; in descending order they are the coefficients of the following variables: website for information or booking (0.76), BI and CRM software (0.61) and e-Commerce website (0.49). The odds for mobile app of having a revenue increase over 10% versus the lower categories are 1.34 greater. The odds for information/booking website, instead, indicate accommodations which use these tools are more likely to get lower revenue in comparison to previous year. Actual signs only partially correspond to expected signs for the nine significant variables. Consequently, hypotheses 1, 2 and 5 are partially confirmed. Hypothesis 3 and 4 are rejected because the significant coefficients are positive, assuming that the presence on destination's digital tools influences the intermediated bookings through the offline and destination's channels.

4.2 Discussion

Empirical results evidence the contribution of smart destinations in increasing the competitiveness of the tourism firms in the same area. In particular, accommodation facilities that are present on destination's websites (for informative and/or booking purposes) receive more direct bookings and less intermediate bookings, from online channels (OTAs, metasearch engines and other third parties portals). Anyway, it is also increased the quota of intermediated bookings from traditional channels (travel agencies and tour operators). It could be the case of consumers who use the web for gathering information about the travel, but prefer to establish a face-to-face relationship with the seller in order to feel reassured with the opinion of an expert. This possibility highlights the omnichannel journey the tourists go through, with a mixed use of digital and traditional touchpoints along the traveling purchasing process. Tourist cards, instead, increase the percentage of direct bookings without any significant effect on intermediated ones. This highlights the mainly advertising nature of the tool. Results show smart destinations themselves become new intermediaries: the ones offer information and booking websites, e-Commerce portals and BI and CRM software address accommodation facilities a greater quota of bookings. Anyway, these platforms are often

free and therefore they can still be considered a good brokerage channel. Moving to revenues, two variables result statistically significant: the presence of accommodations in information/booking destinations' websites and in destinations' mobile apps. Specifically, regarding accommodations that use the destinations' apps, they have a greater probability to experience a revenue increase. A possible explanation is that accommodation facilities that choose to join destination mobile program have at their disposal a large quantity of data that reveal precious insights on users' habits and movements. Companies then can customise their services according to customers' needs and obtain such financial benefits. Indeed, tourism industry is becoming even more customer-centric and customer satisfaction is highly rewarded, since it automatically brings to the accommodations new customers through positive reviews of their service. Instead, it is interesting to note that the probability to increase in sales over the previous year is lower for accommodations present on information or booking websites. This evidence shows that destinations' websites seem to act more as booking routers than as promotional showcases.

5 Conclusions

This paper investigated the links, in hospitality industry, between the marketing tools developed by DMOs and the distribution of bookings received through the different channels and the revenues. The models predict that a positive correlation with direct bookings and revenue may exist, while the relationship with intermediated bookings may be inversely proportional. The empirical analysis provides evidence in their favour. To our best knowledge, this is the first attempt to analyse which destination tools contribute to development of accommodations in terms of booking channels management and revenue. These two elements reflect the long-term development prospective for accommodation facilities for the following reasons. Appropriate channels management – i.e. direct bookings over intermediated ones – means greater presence and control towards the final consumer, strengthening of the relationships with tourists and co-creation of contextualized offers based on their needs and less dependence on third parties that apply high commissions. Money saved could be used for further investments to create new sources of revenue (e.g. potentiating marketing strategy) and/or to improve internally (e.g. technological equipment) to reduce costs in the long period. Revenue growth is equally important as it is the primary driver for company profitability: higher levels of revenues are likely to generate higher profits, if costs rise at a lower rate, to be reinvested in the

business. Moreover, a positive growth rate is a good indicator of company future stability in case of bank loan request, with the possibility to achieve better financial conditions. Similarly benefits result into employees' engagement and talents' attraction. Finally, a growing business is evidence of the effectiveness in delivering value to customers, which triggers confidence into new potential buyers to obtain same benefits from the service. In addition, in accommodation facilities view, the collaboration with DMOs is also a chance to link their brand to the destination one: it is a potent way to power their image and raise consumer awareness toward their service. In fact, studies demonstrated that tourist destinations touchpoints are one of the most influential factors during inspiration and information gathering phases.

Research results confirm that from touristic firms' perspective, DMOs who make available digital marketing tools are a good opportunity for disintermediation, reducing an excessive reliance on intermediaries. Money saved from third parties commissions can be internally invested to further develop a long-lasting growing. Although positive results emerged also in revenues analysis, there is still large space for improvements for supporting accommodations to increase their visibility and consequently their sales. Accommodations, on their side, should be conscious of the new consumer behaviour and adapt consequently. In their routine, people constantly switch from digital and physical activities and therefore they tend to replicate this natural behaviour in every aspect of their life, including when it comes to buy a travel service. Thus, accommodations do not have to consider distinctly offline and online anymore when reasoning about marketing strategy; they are now part of a single process that contribute to create a holistic touristic experience. Strategy should be omnichannel, in which offline and online tools are harmonized with each other.

In summary, it is now clear that collaboration between smart destinations and accommodation facilities is a win-win relationship, on which to leverage for increasing the competitiveness and the attractiveness of the tourism industry in the entire territory.

5.1 Limitation and future research

The main limitation of this study is the lack of absolute values for bookings and revenues.

Future researches could develop along various levels: i. conduct qualitative research – with interviews and focus groups – to deepen knowledge and gain insights on the

relationships between accommodation facilities and DMOs located in the same territory; ii. repeat the analysis on homogeneous groups of accommodations (e.g. hotels, farm holidays) to verify if results change since different accommodation types are targeted to people that may respond differently to marketing inputs; iii. analyse the tourist travel journey in order to provide managerial insight on the multiple touchpoints activated by tourists during the purchasing process.

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