Using smartphones reservations for hotels in Barcelona for a business segment: Empirical analysis

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Abstract

This paper tries to demonstrate that virtual communities or social media influence the decision to buy tourism products. Specifically, we show that smartphone bookings made by business tourists coming to Barcelona are increasingly popular. The methodology used is first a comprehensive literature review on the topic, media and social networks as a means of tourism promotion and product recommendation. Then, the article goes on with quantitative method that converts the object of study into numerical data, with emphasis on the measurable objective and, therefore, requiring the use of statistics For this study we decided to devise a quantitative questionnaire which is usually the method of data collection by most usual research using this type of method. The multiple choice is an instrument for obtaining data and it is used to gather the information needed: facts, opinions, trends. Data collection was carried out for 4 months (May, June, July and August 2015) with n=1512. We conducted a sieve with inclusion and exclusion criteria and which discarded all participants who did not travel for business. The final sample was 494 participants. We conclude that Facebook, Twitter, Instagram and Foursquare social media are the media used by young people and where gender does not influence their use. However, the degree of use of Google+, Linkedin, TripAdvisor and Booking have no significant relationship, taking into account such variables as age and gender.

Keywords: smartphones, emprical, business

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1. Introduction

This investigation intends to prove that Virtual Communities or Social Media influence on the decision to purchase tourist products in a full-fledged Broadband Society [5]. Especifically we have decided to prove that bookings made by using smartphones by business tourists in Barcelona are increasingly more usual.

The Information and Communications Technology (ICTs) are having a big impact on our society. The new generations assimilate naturally the new culture in this technological era. Nowadays, by using the new technological advances human beings have achieved things which were impossible to carry out previously. Hardware and software have been implemented in areas such as education, health, security, government or companies with the aim of managing information [4].

According to the report "The Information Society in Spain" [8], more than half of Spaniards (76.2%) between 16 and 74 years old use the Internet daily. There are 26.2 million of Internet users (Internet users over the last three months), 1.45% more than in 2013. Frequent users (who connect at least once a week) account for 93.5% of total Internet users. The report also says that the device used to access the Internet when travelling is the smartphone (63.2%) with Internet access using its own smartphone network; followed by laptops (including netbooks and tablets) with 31.6% and other devices (PDAs, game consoles, etc.) with 6.3%. The study of the "Orange Foundation" says that Spain is the fourth European country in number of smartphones.

Smartphones often help the tourists in their travel [10, 20] and have a significant impact on the activity of the trip [19]. According to Wang et al. [19] today travelers are in constant search for information in order to reduce uncertainty and make use of their smartphones as assistants throughout all phases. Especially before and during the trip, they rely on mobile technology to simplify the trip looking for information on transportation, lodging, attractions and activities. Travelers also use smartphones in order to communicate with others, using like emails, phone calls, text messages and social networks [3]. On the other hand, smartphones also represent a tool for self-entertainment games, music, and photography, photo sharing, watching movies or reading news.

As regards the supply side, there are various categorizations in the scope of mTourism [9, 20, 21] for the proposal to deploy the complexity and diversity of this topic. Kennedy and Gretzel-Eden [9], have created two classifications, the first seven categories, depending on the application services related to travel. They are "Navigation", "Social", "Mobile Marketing", "Security/Emergency", "Transactional", "Information" and "Entertainment", which are divided into several sub-categories. The second is based on the level of customization and is classified into seven major areas, ranging from personal preferences -which indicate the highest level- to "Sensitive Location", "Security/Data Control", "Control by means of the Internet","Addiction to content", "Cosmetic changes" and, ultimately, the applications that can not be customized in any way and do not offer any type of interaction.

Besides studying conventional guidebooks for mobiles [16, 11], there are investigation on basic location aware context [22, 1, 13], augmented reality [18], the requests as well as mobile applications in the context of the business of various tourist service providers such as airlines [14], theme parks [2], and hotels [12].

2. Methodology

The methodology used was first a comprehensive literature review on the topic, i.e., Media and Social Networks as a way of tourist promotion and product recommendation.

This research was based on a quantitative method that converts the object of study into numerical data, with emphasis on the objective measurement and, therefore, requiring the use of statistics [6]. For this study we decided to produce a quantitative questionnaire which is the usual method for data collection in the research and it using this type of method. The

questionnaire is an instrument for obtaining data used to gather the information needed: facts, opinions and trends.

According to Merino Sanz et al. [15], the questionnaire homogenises the information since all the subjects respond to the survey questions that are formulated in a standardized way, allowing information processing faster. We used the questionnaire that was designed to know the use of Social Media from a universe with Business as the main motivation for the trip.

First of all, there are a number of questions such the age, the sex, the origin and the level of education, on the one hand in order to see the profile of participants, and on the other hand to check how representative sample is.

he various sets of questions want to know the reasons that motivate participants when participating in Social Media, the degree of confidence that they have, how the individual tourists organize their trip (before, during and after) and role of Social Media in these issues.

For the assessment of the majority of questions we used the Likert Scale, which measures attitudes toward a proposal depending on the respondent's degree of agreement or disagreement.

In quantitative research processes we usually select a representative sample of the population that is under study, so the results can be generalized to study the universe investigated [6].

Samples have some obvious advantages with respect to the study population, since with a restricted sample large populations can be surveyed and human, which otherwise would be very difficult.

3. Results

Data was collected over a 4 mounts period (May-August 2015) and 1,512 valid results were obtained. A streming process was performed, using inclusive and exclusive criteria, and all those participants who were not on a business trip were discarded. The final sample included 494 partipants (Table 1 & 2).

Table 1

Name	Average	SD	CI (95%)	N
Age	38.92	10.30	(38.12 a 40.13)	494

Source: own

Table 2

NAME	CATEGORIES	PERCENTAGE
SEX	Women	44.53%
STUDIES	Secondary education	27%
	University studies	72%
ORIGIN	Nationals	57.4%
	Internationals	42.6%
	UK	22.33%
	Germany	14.16%
	Others (France, Italy, Belgium, Argentina, Ecuador…)	6.11%

Sources: own

In this study we saw that the most used device by *business* tourism is *smartphone*, next is the Laptop and the tablet in third position (Table 3).

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Table 3: When I connect to Internet, I do with ... (indicate % of time)

Name	$\bar{x}$	SD	CI (95%)	n
Desktop	46.52	37.51	(43.73; 51.26)	494
Laptop	58.07	34.32	(53.97; 60.72)	494
Smartphone	62.84	31.27	(59.82; 65.99)	494
Tablet	41.80	39.15	(38.16; 45.87)	494
Others devices	1.60	10.91	(0.62; 2.78)	494

Sources: Own

Table 4 shows the least know Social Media are *Instagram* and *Foursquare*, which are below the average (2.5)

Table 4. Level of Knowledge of Social Media (0=nothing, 5=mastery)

Name	$\bar{x}$	SD	CI (95%)	n
Facebook	3.88	1.51	(3.74; 4.05)	489
Twitter	3.13	1.88	(2.97; 3.34)	487
Google+	3.04	1.85	(2.94; 3.30)	487
LinkedIn	2.86	1.86	(2.63; 3.01)	485
Instagram	2.25	1.80	(2.09; 2.45)	491
Foursquare	0.93	1.44	(0.75; 1.03)	490
TripAdvisor	3.03	1.54	(2.85; 3.15)	489
Booking	3.67	1.37	(3.52; 3.80)	491

Sources: Own

Social Media more used are *Booking* and *TripAdvisor* (Table 5), the only ítems over the average (2.5).

Table 5. Level of use of Social Media (0=no use, 1=few use; 5=much use)

Name	$\bar{x}$	SD	CI (95%)	n
Facebook	2.21	2.08	(2.05; 2.45)	491
Twitter	1.67	2.05	(1.49; 1.90)	485
Google+	2.01	2.20	(1.84; 2.28)	486
LinkedIn	1.16	1.75	(1.02; 1.37)	486
Instagram	0.91	1.49	(0.75; 1.03)	490
Foursquare	0.48	1.11	(0.35; 0.55)	487
TripAdvisor	2.86	1.61	(2.64; 2.96)	491
Booking	3.59	1.44	(3.44; 3.73)	492

Sources: Own

Table 6 shows that the main motivation for using Social Media is the immediate communication with contacts, family and/or friends of the participants.

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Table 6. Motivations that lead to use Social Media (1= strongly disagree, 5=totally agree)

Name	⍺	SD	CI (95%)	n
Online social networks are nice, fun and I am proud to share my opinions and assessments	3.62	1.21	(3.53; 3.77)	492
Online social networks allow me to stay in touch with my friends/family and contacts	4.03	1.20	(3.99; 4.21)	492
Online social networks make me feel a sense of belonging to a group	3.05	1.53	(2.89; 3.19)	492
Most people around me belong to a social net-work online	4.09	1.14	(4.04; 4.25)	492
I use them because they are necessary for my job	3.18	1.62	(3.05; 3.37)	492
Online social networks make my life easier by allowing me to solve problems quickly	3.43	1.41	(3.32; 3.60)	492
Online social networks allow me to follow the path of my favorite companies	3.41	1.42	(3.27; 3.55)	492
I use them because others do so	2.89	1.49	(2.73; 3.03)	492

Sources: Own

The degree of trust and privacy opinion on Social Media below 3 (<3) is associated with the item "Information and comments offered by social networking companies inspire confidence." The reliability and confidence increase when information is offered to companies that choose to follow the participants (Table 7).

Table 7. Opinion on the Trust and Privacy of Social Media (1=strongly disagree, 5=totally agree)

Name	⍺	SD	CI (95%)	n
I believe that my personal data are properly treated in social networks online	2.94	1.23	(2.85; 3.09)	492
Privacy measures of online social networks inspire sufficient confidence to continue using them	3.13	1.13	(3.05; 3.27)	492
The information I provide is trented safely	3.08	1.18	(3.04; 3.26)	492
The information provided by the companies I follow are reliable	3.37	1.12	(3.32; 3.54)	492
I stopped publishing my opinions because I'm not really want to be seen by others	3.24	1.14	(3.19; 3.42)	492
The information and comments provided by businesses on social networks inspire confidence	2.63	1.09	(2.50; 2.77)	492
Information on online social networks has helped me in my purchase decisions	3.31	1.17	(3.24; 3.47)	492
The information found on online social networks seems reliable	3.18	1.09	(3.11; 3.32)	492

Sources: Own

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When organizing a trip, the participants seem to prefer to seek information and engage primarily in the pages of suppliers, fully exceeding the average (3) (Table 8).

Table 8. When arranging a trip (1=strongly disagree, 5=totally agree)

Item	ⷨ	SD	CI (95%)	n
I look for information on the Social Networking	3.53	1.48	(3.47; 3.76)	492
I look for information on the pages of tourism providers (airline, hotel, etc.)	3.97	1.23	(3.89; 4.13)	492
I look for information from traditional travel agencies	3.15	1.52	(3.05; 3.35)	492
I book my trip on the Media/Social Network	3.04	1.56	(2.96; 3.27)	492
I book my trip in the pages of tourism providers (airline, hotel, etc.)	3.91	1.22	(3.81; 4.05)	492
I book my trip at traditional travel agencies	3.09	1.53	(2.97; 3.27)	492

Sources: Own

Table 9 shows that participants interact with Media / Social Network especially while traveling.

Table 9. Value if you perform the following actions regarding the use of Media/Social networks before, during and after the trip (1=strongly disagree, 5=totally agree)

Item	ⷨ	SD	CI (95%)	n
Before departing, I let my aquaintances know Media/Social Networks	2.58	1.41	(2.47; 2.75)	492
Before departing I look at the opinions of other travel agenc users	3.13	1.36	(3.07; 3.34)	492
Before departing I look at other hotel guests' opinionsl	3.62	1.31	(3.57 3.83)	492
During the trip, I look for reviews of Restaurants	3.69	1.25	(3.64; 3.88)	492
During the trip, I look for reviews of places to visit	3.80	1.20	(3.76; 3.99)	492
After the trip I communicate my impressions	3	1.47	(2.89; 3.17)	492
After the trip I value travel agencies, Hotels, Restaurants	3.03	1.36	(2.94; 3.21)	492

Sources: Own

Table 10 shows that most used media/social networks are *Facebook* and *Booking* exceeding the average value (3)

Table 10. Indicate the degree in which you have used Media/Social Network on this trip (1=rarely or never, 5=ever)

Item	ⷨ	SD	CI (95%)	n
Facebook	3.38	1.55	(3.30; 3.60)	491
Twitter	2.83	1.69	(2.75; 3.08)	490
Google+	2.54	1.68	(2.44; 2.78)	490
LinkedIn	2.48	1.59	(2.33; 2.64)	489
Instagram	2.12	1.41	(2; 2.29)	490
Foursquare	1.39	0.86	(1.30; 1.46)	486
TripAdvisor	2.65	1.40	(2.50; 2.78)	491
Booking	3.11	1.49	(2.97; 3.26)	491

Sources: Own

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The data in Table 11 show that the most used means for contacting the accommodation is the Phone and Email, which far exceed the average (3) and the website, which also has a higher value than the average.

Table 11. When you want to contact the accommodation, which means do you use more often? (1=rarely or never, 5=ever)

Item	$\bar{x}$	SD	CI (95%)	n
Phone	3.82	1.38	(3.72; 3.99)	491
Email address	3.81	1.31	(3.76; 4.01)	489
Social Networks	2.81	1.58	(2.70; 3.02)	490
Website	3.46	1.37	(3.36; 3.62)	487
Opinion portals (TripAdvisor, Booking, etc.)	2.99	1.62	(3.06; 3.36)	485
Others (indicate which)	1.14	0.67	(1.06; 1.19)	459

Sources: Own

In the case of the Apps (Table 12) we see that those perceived as more useful are those of Hotels, exceeding the average (2.5).

Table 12. Evaluate the degree of usefulness of mobile apps (0=don't use, 1=nothing usefull and 5=very helpful)

Item	$\bar{x}$	ED	CI (95%)	n
App Hotels	2,64	1,80	(2,41; 2,77)	492
App Travel Agencies	2,12	1,80	(1,96; 2,32)	492

Source: Own

4. Conclusions and Discussion

The advantages of social media are beyond simple positioning. In fact, they have to do with increased competitiveness and the chance to build a development strategy and continuous improvement to have the continous opportunity to build a development strategy and improvement.

Considering Gretzel and Yoo [7], three quarters of travelers attend comments from other online consumers as a reference to plan their trips. Therefore, and given our results, social media are a reference when traveling or consuming "tourism" by other Internet users.

The consumer's opinion websites (Khammash and Burton, 2010) allow travelers to review any aspects of a vacation, including lodging, restaurants, destinations and other tourism-related products, such as tour operators. As soon as you publish comments on the networks, they are available to other potential travelers to read and make use to make decisions later [17].

According to Henning-Thurau et al. (2004), eWOM communication articulated by opinion platforms based on the opinions of consumers have greater impact than other opinions published in other Media, because, unlike other groups, opinion platforms are relatively easy to use and require less knowledge surfer from consumers who want to get information.

The results of our investigation show that most travelers believe, as Kotler et al. say (2010), the information provided by the social media users is less biased, credible and reliable information when compared with traditional organizations.

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References

[1] Barragáns-Martínez, A. B., & Costa-Montenegro, E. (2013). Adding personalization and social features to a context-aware application for mobile tourism. *Distributed computing innovations for business, engineering, and science*, 253-265.

[2] Brown, A., Kappes, J., & Marks, J. (2013). Mitigating theme park crowding with incentives and information on mobile devices. *Journal of Travel Research*, 20(10), 1–11.

[3] i Gascón, J. F. F., del Olmo Arriaga, J. L., & Nieto, V. B. (2012). Presencia y reputación digital en" social media": comparativa en el sector de la moda.*Fonseca, Journal of Communication*, (5), 92-116.

[4] i Gascón, J. F. F., & del Olmo Arriaga, J. L. (2013). *El trabajo de fin de grado en Ciencias Sociales y Jurídicas: guía metodológica*. Ediciones Internacionales Universitarias.

[5] i Gascón, J. F. F. (2013). Periodismo ciudadano y" cloud journalism": un flujo necesario en la sociedad de la banda ancha. *Comunicación y hombre: revista interdisciplinar de ciencias de la comunicación y humanidades*, (9), 25-41.

[6] i Gascón, J. F. F., García, S. E., & del Olmo Arriaga, J. L. (2013). Estrategias de gestión de la información para cubrir necesidades laborales especializadas. *Icono14*, *11*(1), 217-231.

[7] Gretzel, U., & Yoo, K. H. (2008). Use and impact of online travel reviews.*Information and communication technologies in tourism 2008*, 35-46.

[8] INE (2014). *La Sociedad de la Información en España*. Madrid: INE.

[9] Kennedy-Eden, H., & Gretzel, U. (2012). "A taxonomy of mobile applications in tourism". *E-review of Tourism Research*, *10*(2), 47-50.

[10] Kenteris, M., Gavalas, D., & Economou, D. (2009). An innovative mobile electronic tourist guide application. *Personal and ubiquitous computing*,*13*(2), 103-118.

[11] Kenteris, M., Gavalas, D., & Economou, D. (2011). Electronic mobile guides: a survey. *Personal and ubiquitous computing*, *15*(1), 97-111.

[12] Kim, D. & Alder, H. (2011) *Student's Use of Hotel Mobile Application: Their Effect on Brand Loyalty*. New Jersey: Pearson Prentice Hall. http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1242&context=gradconf_hospitality (available 20/10/2015).

[13] Lamsfus, C., Martín, D., Alzua-Sorzabal, A., Cadenas, A. Ruiz, C. García-Castro, R. & Poveda, M. (2009). Servicios turísticos en función del contexto basados en semántica. *XIX Jornadas Telecom I+D (Telecom I+D 2009)*, Madrid, Spain.

[14] Liu, Y. & Law, R. (2013). Information and Communication Technologies in Tourism 2013. *Proceedings of the International Conference*, Innsbruck, Austria.

[15] Merino Sanz, M. J. (Coord.) (2010). *Introducción a la investigación de Mercados*. Madrid: ESIC Editorial.

[16] Rasinger, J., M. Fuchs, W. Höpken, & Th. Beer (2007). Information Search with Mobile Tourist Guides: A Survey of Usage Intention. *Information Technology & Tourism - Applications, Methodologies, Techniques*, 9(3).

[17] Sigala, M., Christou, E., & Gretzel, U. (Eds.). (2012). *Social media in travel, tourism and hospitality: Theory, practice and cases*. Ashgate Publishing, Ltd..

[18] Yovcheva, Z., Buhalis, D., & Gatzidis, C. (2012). Smartphone augmented reality applications for tourism. *e-Review of Tourism Research (eRTR)*, *10*(2), 63-66.

[19] Wang, Y., & Kracht, J. (2010). Examining the tourism distribution channel: evolution and transformation. *International Journal of Contemporary Hospitality Management*, 22(5): 736–757.

[20] Wang, D., & Xiang, Z. (2012). The new land scape of travel: a comprehensive analysis of smartphone apps. In M. Fuchs, F. Ricci, & L. Cantoni (Eds.), *Information and communication technologies in tourism* (pp. 308–315).Vienna: Springer.

[21] Dickinson, J. L., Shirk, J., Bonter, D., Bonney, R., Crain, R. L., Martin, J., ... & Purcell, K. (2012). The current state of citizen science as a tool for ecological research and public engagement. *Frontiers in Ecology and the Environment*, *10*(6), 291-297.

[22] Hopkins, P. F., Bundy, K., Croton, D., Hernquist, L., Keres, D., Khochfar, S., ... & Younger, J. D. (2010). Mergers and bulge formation in λcDM: which mergers matter?. *The Astrophysical Journal*, *715*(1), 202.