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The use of online social networks as a promotional tool for self-administered internet surveys

El uso de las redes sociales online como herramienta promocional de encuestas auto-administradas en internet

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ABSTRACT

This paper presents the results of a research carried out in Spain to obtain information about online consumer behavior in the tourism sector, employing a survey conducted through the Internet. Researches carried out through the Internet frequently use volunteers instead of the random and equiprobable selection used in other surveys, which means that the possibilities of generalizing the results are limited. In order to try to reduce this problem as much as possible, it is usual to conduct extensive promotional campaigns of online surveys using banners and mailing lists, and offering incentives to participants. This paper also uses an online communication tool that is becoming increasingly important: online social networks. All these tools have been used in the promotion of the survey, which has allowed us to obtain a number of replies that considerably increases the representativeness of the sample.

Keywords: *Social networks, internet surveys, self-administered survey*

RESUMEN

En este trabajo se presentan los resultados de una investigación realizada en España para obtener información relativa al comportamiento del consumidor online en el sector turístico, empleando una encuesta realizada a través de Internet. En las investigaciones realizadas a través de Internet es habitual el empleo de voluntarios, frente a la selección aleatoria y equiprobable de otras encuestas, lo que hace dudar de la capacidad de generalización de los resultados. Buscando reducir al mínimo este problema es usual llevar a cabo una extensa promoción de la investigación empleando banners, listas de distribución, y ofreciendo incentivos a los participantes. Este trabajo añade el uso de una herramienta de comunicación online de creciente repercusión: las redes sociales virtuales. Todas estas herramientas han sido utilizadas en la promoción del cuestionario, lo que nos ha permitido obtener en este trabajo un número de respuestas elevado que aumenta notablemente la representatividad de la muestra.

Palabras clave: Redes sociales, encuestas en internet, encuestas auto-administradas.

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INTRODUCTION

The process of gathering information is a key factor in any research employing a survey because it determines, to a great extent, the quality and capacity for generalization of the results obtained (Ansolabehere and Rivers, 2013; Morton-Williams, 1993). This is especially important in researches carried out through the Internet because conducting self-administered online surveys normally requires the use of volunteers, which can make it difficult to obtain a representative sample of the population under study (Díaz de Rada, 2012).

This paper is part of a more extensive research in which we try to obtain information about the behavior of the online consumer in the tourism sector. This sector is very attractive from the business point of view since it accounts for the greatest volume of e-commerce transactions in Spain (Comisión del Mercado de Telecomunicaciones, 2012). Given the importance of the sector, we wanted to guarantee the quality of the study by achieving a representative sample that would allow us to generalize the results obtained. To do so, we have run an extensive promotion of the research employing banners, mailing lists and a prize draw among the participants. Nevertheless, in this paper, we also make use of an increasingly important online communication tool, namely, *online social networks*. All these tools have been used in the promotion of the questionnaire and have allowed us to obtain a high number of replies that help to better guarantee the representativeness of the sample.

With the aim of providing a detailed description of the strategies employed in the data collection process, the present paper is structured as follows. First, we describe how we used a specifically designed website to gather our information. After that, we describe the promotional campaign of the research, analyzing its characteristic features and highlighting our use of an increasingly important online communication tool, namely, *online social networks*. We then describe our treatment of the data obtained, including our meticulous process of eliminating certain cases. In the final section, we present the main conclusions.

DATA COLLECTION PROCESS

The basic aspect that characterizes a self-administered survey, and that allows us to distinguish them from other methods for information collection, is the absence of an interviewer to read the questions and note down the answers. Instead, the person interviewed is the one who performs these tasks. The data collection in the present article was carried out using a variant of this method, namely, a self-administered Internet survey (Díaz de Rada, 2012).

Among the disadvantages of online surveys (see Table 1), we can mention the difficulty of getting the questionnaire of a particular individual, although some previous studies has developed strategies to solve this problem (Lozar and Vehovar, 2008; Sánchez Carrión and Segovia Guisado, 2008). For example, some authors (e.g. Baatard 2012; Hansen and Tue Pedersen, 2012; Blasius and Brandt, 2010; Sánchez Carrión et al., 2012) recommend preselecting the sample through an e-mail invitation, placing links in well-known Internet portals and offering incentives for participation (Dykema et al., 2015; Singer and Cond, 2013). In the present study, we took these recommendations as our starting point by doing the following: (1) promoting the research through mailing lists related to the question under study, (2) placing adverts and banners with a link to the questionnaire on the websites of well-known travel agencies, and (3) offering a prize draw as an incentive for participating in the study. Nevertheless, with the aim of obtaining a wider and more representative sample and taking advantage of the interaction opportunities offered by the Internet, we add a new element: *online social networks*.

Focusing attention on online social networks, they may help overcome some of the disadvantages of self-administered surveys. Specifically, online social networks favor the representativeness of social groups and the access to individuals that are part of the target population. This is explained by the great amount of topics around which online social networks are developed. For instance, due to segmentation tools offered by platforms such as Facebook, it is possible to reach very specific profiles (e.g. abstract art lovers living in Barce-

lona). Similarly, populations that are not well-represented on the Internet can be more easily accessed thanks to online social networks (e.g. it is possible to reach rural populations by using a local *online social network*, or elders and sick people by using online social networks focused on these specific segments). Clearly, due to the fact that both the Internet and online social networks penetration rates are not 100 %, there will be unreachable segments by this mean (e.g. potential clients that do not use Internet to satisfy their consumer demands). Nevertheless, the relevance of this problem decreases day to day, since Internet penetration rate is currently very high. For example, almost 74 % of households are connected to the Internet in Spain (ONTSI, 2015). Besides, the continuous increase in the use of online service is mostly due to the greater use of online social networks. As a result, it is easier to reach any kind of segment nowadays, not only to perform market researches, but also to conduct studies focused on other social fields such as opinion polls in the political sphere. In this way, we may note that new political marketing strategies and new processes of citizen participation rely on Internet and online social networks as their fundamental aspects.

In this paper, the process of information collection is characterized by the design of a specific research website and the implementation of a strategy for the promotion of that website.

Table 1. Benefits and disadvantages of self-administered Internet surveys

Benefits	Disadvantages
reduced number of information transcription errors	uncertainty about the identity of the interviewee
convenience, accessibility	difficulty of correctly selecting the population under study
lower costs	lower response rate
asynchronous communication, elimination of intermediaries	biases caused by the self-selection of the participants
wide geographic reach	difficulty of making the questionnaire reach a particular individual
lower peer influence	distrust of web security
higher quality of the information, reduction of the partial response rate	difficulty of representing certain social groups
more visual interaction	
flexibility, responses control	

Source: Own elaboration

Design of the questionnaire and the research website

After selecting the adequate variables for the aim of our study, we follow the recommendations of Dillman (Dillman, 1978; Dilman et al., 2014) who essentially points out that the questionnaire should be easy to fill in, emphasizing that it should be attractive and comfortable in its design. It must be borne in mind that the probability of collaborating

in a study is greatly influenced by the impression perceived when accessing the research website for the first time (Pratesi et al., 2004), so it is fundamental to make the maximum possible effort in preparing the text of the presentation and in the design of the questionnaire (Sánchez Carrión et al., 2012; Díaz de Rada, 2012).

Bearing these recommendations in mind, the present study does not ask any questions at the beginning of the questionnaire, using this space to attract the attention of people that "come across" the questionnaire (Walston et al., 2006). The aim is to provide the research with the maximum transparency and to highlight its seriousness before proceeding to the answering of the questionnaire, so we cite the objectives of the study, the collaborating institutions and the names and contact data of those in charge of the project.

Figure 1 illustrates that the first element that the potential participant sees is the logotype of the University, which gives value to the research (Keusch, 2013; Boulianne et al., 2011) by showing that it is a scientific study without commercial interests (Díaz de Rada, 2012; Hansen and Tue Pedersen, 2012; Edwards et al., 2009). The text begins with an introduction from the researchers that shows their e-mail addresses and where they work, so that any reader can check their authenticity. As well, it is worth mentioning the title of the research (Social Networks and Tourism on the Internet), because it may be of great interest to users of web pages related to travel.

Below, we show the instructions for answering the questionnaire, mentioning the need to answer all the questions, and we present the prize used to increase the response rate (Edwards et al., 2009). In choosing the prize, we follow the recommendations of Lozar and Vehovar (2008) when they consider that the effectiveness of an incentive to increase the response rate varies according to the type of population surveyed and the subject of the survey. Considering the subject of the study and the public under study (potential online travel purchasers), we used a draw for a 600 euro travel voucher as our incentive. One of the problems generated by the use of incentives is that some people may answer several questionnaires to increase the probability of winning the prize (Clifford and Jent, 2015), a situation that —as we will see below— did not occur in this study (Singer and Cond, 2013).

Figure 1. Research website

Source: Image obtained from the research website developed by authors for the project at surveymonkey (http://ow.ly/ZxgtX)

We also provide a web address where the rules of the draw can be found, which increases the seriousness of the incentive. It is important to emphasize that only those that answer the questionnaire completely can participate in the draw.

The third paragraph contains more instructions about how to answer the questionnaire, insisting on the importance of the sincerity and the confidentiality of the information provided since these are aspects of proven efficacy to increase cooperation in surveys (Singer, 2004).

After thanking the users for their collaboration, the questionnaire is presented. Bearing in mind that most Internet surfers read quickly and impatiently, scanning the text more than reading it, it is necessary to design the questionnaire very carefully, using short, concise and very precise questions (Callegaro et al., 2015; Dillman et al., 2014; Sánchez Carrión et al., 2012). As a result of this, the questionnaire begins with an open question asking for the name of an online social network in which the people interviewed regularly participate with questions and contributions related to travel and tourism. This is followed by 32 items about this social network, which analyze the participants' expectations, perceived utility, satisfaction, trust, commitment, level of participation, propensity to interact online, intentions to buy products related to the selected online social network and intentions to follow the advice obtained in that network. These aspects are measured using a 7-point Likert-type scale (Revilla et al., 2014), following the advices of Couper et al. (2013) and Galesic et al. (2007).

After this, there are seven questions about the socio-demographic characteristics of the person interviewed, using closed questions with answers laid out horizontally. The questionnaire ends with an explanation about the prize (Edwards et al., 2009), once again referring to the anonymity and confidentiality of the answers (Sánchez Carrión et al., 2012). The applicable law in Spain is then cited and the fact that the information collected will be only used for this study is again emphasized. It is made clear that the data will not be passed on to third parties and an address is provided at which participants can exercise their rights of access, rectification and cancelation. When the questionnaire is completed, the data are stored in the website itself, from where it can be accessed by the researchers at any time.

It is important to note that we have emphasized aspects related to surfability and usability when designing the questionnaire and how to answer it (Llaudaró, 2006). The person being interviewed can jump certain questions and return to them later. The questionnaire also permits the user to abandon the answering process temporarily and continue later. With respect to the visual aspects, we have used bold letters and underlined the most important terms of each question. To sum up, it is a very short questionnaire, with an attractive design and simple to answer, which are essential aspects in order to achieve the cooperation of the participant (Pratesi et al., 2004; Tourangeau et al., 2013; Dillman et al., 2014).

We have also used a progress indicator that shows the participant, graphically, which parts of the questionnaire have been answered and which parts are left. This is an interesting feature because it shows the participant the progress he has made as well as orienting him in the answering process. Although some researchers find that this feature causes decreases in cooperation (e.g. Lozar and Vehovar, 2008; Callegaro et al., 2015; Tourangeau et al., 2013), this effect only occurs in very long questionnaires. The brevity of our questionnaire means that the bar moves a lot every time a question is answered, which is why we felt that the inclusion of this feature was suitable.

Having explained the questionnaire, it is time to highlight that a specific research website was designed with the aim of establishing a point of contact between the participant and the researchers. The definitive questionnaire was published at www.surveymonkey.com, a website dedicated to the elaboration of surveys and the storage of the answers obtained.

Promotional campaign

To make the existence of the project known and to obtain the highest possible number of answers,

we planned and ran a promotional campaign on the Internet (Schonlau et al., 2004). The success of this type of survey depends on the sites chosen on which to promote the research (Keusch, 2013), the number of sites and the moment at which it is carried out.

First, we tried to get in touch with the people in charge of the main travel agencies in Spain, both national and regional, in order to ask for their collaboration and to arouse their interest in the present study. As a result, we first obtained the collaboration of the online travel agency, Lastminute.com (http://www.es.lastminute.com/), where an advertising banner was placed during two months (February and March). This banner was adapted to the requirements of the collaborating firm and permitted direct access to the home page of the project with just one click.

Likewise, we obtained the collaboration of the flight and hotel search engine Minube.com (http://www.minube.com/), where a promotional advert was published in the company blog and a mention to the project was also included in the newsletter that the firm periodically sends to its registered users. This newsletter mentions the project, encourages its readers to participate and provides a link to the online questionnaire.

Furthermore, several websites related to the tourism sector and the world of travel, namely, http://www.travelmarketing.biz/, http://www.escapadarural.com/, www.ruralon.com, www.viajered.com, www.viajaris.com, www.es.ulises.com and www.megustaelturismo.es agreed to promote the research among their users.

In addition, we ran a promotional campaign through Spanish-speaking mailing lists related with tourism. These e-mail messages were sent weekly during April and May, 2008. The use of these tools seeks, firstly, to enhance the visibility of the research and, secondly, to increase the number of contacts with potential participants, an aspect of proven efficacy in cooperation (Heerwegh, 2005).

Lastly, and as our main contribution in this research, we used online social networks with the aim of promoting the research among the largest possible number of the individuals under study. An online social network is a group of individuals that interact online with a common interest which leads them to maintain higher levels of commitment and to establish long-term relationships. Moreover, these social networks develop rules to guide these relationships (Casaló, 2008). According to Lee et al. (2003), social networks allow members to become involved in common activities, share experiences and feelings, discuss ideas with other individuals and interchange opinions on subjects of mutual interest.

More specifically, the advantage of online social networks relies on the fact that, through the comments made in them, one member can influence the behavior of the others (Kozinets, 2002), making it possible to get the collaboration of other network members when carrying out a certain activity. This is due to the fact that, in a social network, the members are willing to help other members when necessary (Wiertz and De Ruyter, 2007) because there is a feeling of reciprocity between them (Wasko and Faraj, 2005). In this way, the development of collaborative actions is guaranteed within the network in the long run. Nevertheless, it is worth pointing out that, to receive help from the other members, it is necessary to contribute to the network without demonstrating opportunistic behavior. That is, the individuals must reflect their *consciousness of class*, the sentiment through which each individual feels united to the rest of the group (Muñiz and O'Guinn, 2001), in order to show their legitimacy within the network. Therefore, focusing on our particular case, to be able to promote our research among the members of tourism related online social networks; we first had to contribute to the group with our own knowledge, helping other members when they needed help. In this way, we would show that we felt identified with and committed to the group, facilitating the collaboration of other members with the study in order to pay back our efforts within the community.

In order to do this, we analyzed the main Spanish-speaking online social networks focused on the tourism sector with the aim of actively participating in them and, later, making our research known to their members. We selected the most important online social networks by following three criteria: the opinion of experts, the level of traffic and their availability. Afterwards, the members of

the research team became actively involved in different networks such as Tripadvisor, Lonelyplanet and Trivago. As we have already explained, we first participated in the selected networks answering members' questions and creating value in the network. When the components of the research team were considered as just one more member of the network by the other members, they began to post promotional information about the research.

Finally, it is important to point out that the questionnaire includes a question to identify the website through which the individual had learnt of the existence of the project and decided to participate in it, which allows us to obtain statistics about the most efficient way to obtain research data.

The collaboration of an online travel agency (lastminute.com), a flight and hotel search engine (minube.com) and seven different websites related to the tourism sector and the world of travel, the use of Spanish-speaking mailing lists related with tourism and online social networks should, in principle, lead to a high awareness of the study. This would allow us to suppose, at the moment of beginning our fieldwork, that we would obtain a large number of replies.

DATA PROCESSING

After finalizing the promotional campaign, we started to analyze the data stored on the website http://www.surveymonkey.com. We received 720 questionnaires, although only 479 were completely filled in (Table 2).

Table 2. Received questionnaires (Column percentages)

Access method	Initiated questionnaires	Non-abandoned questionnaires
Online social networks	266 (37 %)	198 (41 %)
Other tools used in the promotional campaign	454 (63 %)	281 (59 %)
Total	720	479

Source: Own elaboration

First, we checked that nobody had sent more than one survey to increase their probabilities of winning the prize draw. This was done in two ways:

1. Allowing the questionnaire to be answered only once from each IP address, an option that was available on the research webpage, and
2. Looking for possible similarities or duplicities in the questionnaires received, such as, for example: name, e-mail address, etc.

Then, we carried out an exploratory study of the data obtained to detect outliers and missing data in the sample. Outliers have particular characteristics that differentiate them clearly from the rest and are due, mainly, to methodological errors and extraordinary and inexplicable situations. Although there are various mechanisms to detect them, usually, the values of each variable are standardized and those that after the standardization have a value of more than 3 points are considered outliers (Guinalíu, 2005). The results obtained show the existence of a small number of atypical cases, 2 in the questionnaires answered through online social networks and 13 in the rest. As we did not know their cause, we opted to eliminate them in order to avoid anomalies and distortions in the later analyses.

More important for our purposes is the identification of missing data, caused by the carelessness or forgetfulness of the participants in their answers (Table 3). Although these data were found in only a very small percentage of the cases, we checked whether its presence corresponded to behavioral patterns related to the decision of not answering certain questions. In other words, we analyzed whether the missing data followed a random pattern or not. To do so, we re-codified the variables so that they took the value 1 if the case were complete and 0 if it were lost, and then determined the correlation between each pair of variables. No pattern was observed in the missing data so we can consider that they followed a completely random process (MCAR), even though we decided to eliminate the surveys that left two or more questions unanswered. On the other hand, although the answers to the socio-demographic questions are laid out horizontally, which makes them more difficult to answer, all these questions were answered perfectly and nobody left any question of this type unanswered (Table 3).

Table 3. Valid questionnaires (Colum percentages)

	Online social networks	**Other tools**
Initiated	49.8 %	49.2 %
Abandoned	12.7 %	18.8 %
1 unanswered question	0.9 %	0.9 %
2 unanswered questions	0.0 %	0.0 %
3 or more unanswered questions	0.6 %	0.5 %
Completed	35.5 %	29.0 %
Outliers	0,4 %	1,4 %
TOTAL (number of cases)	534	921
VALID (completed + 1 unanswered - outliers)	**193** **72.5 %** initiated	**263** **58 %** initiated

Source: Own elaboration

In the end, this method of collecting data through voluntary individuals gave us 456 valid replies; 193 questionnaires received through social networks and 263 from the other channels. The 193 valid questionnaires that came from the promotion in social networks are a high percentage (42.3 %) of the total of valid data.

Because the data collection method was non-random (*volunteer sampling*), it was not possible to evaluate the existence of possible biases statistically. In this type of situation, it is recommended to compare the average profile of those surveyed with profiles obtained in similar studies (Rao and Pennington, 2013). In our case, we compared the socio-demographic characteristics obtained with those offered by the most prestigious studies available on the Spanish-speaking Internet user, such as EGM or ONTSI (Sánchez Carrión et al., 2012).

It is important to highlight that the socio-demographic characteristics of those who participated through the promotion carried out in the social networks were not significantly different from those of the participants that arrived through other promotional channels (Table 4).

Table 4. Comparison of the characteristics of the participants in the study

	Total	AIMC (2009)	ONTSI (2009)	Access through online social networks	Access through other tools
Sample size (%)	456 (100 %)	30705	19131	193 (42,30 %)	263 (57,70 %)
Age < 24	21,70 %	24.4 %	20.3 %	21,16 %	22,05 %
Age (25 - 34)	42,70 %	28.5 %	30.5 %	42,86 %	42,59 %
Age (35 - 44)	21,90 %	21.8 %	24.7 %	19,05 %	23,95 %
Age > 44	13,70 %	25.2 %	24.5 %	16,93 %	11,41 %
Sex (males)	48,20 %	54.6 %	52.7 %	46 %	50,20 %
Educational level (> primary education)	97,85 %	-	93.4 %	97,35 %	98,26 %
Internet experience (> 5 years)	83,40 %	-	-	84,40 %	82,60 %

Source: Own elaboration

The analysis of the socio-demographic characteristics of participants allows us to know to what extent there are significant differences between the group of data obtained through the promotion carried out in the social networks and the group of data obtained through the other promotional channels. To do this, we analyzed whether the distribution of these variables was independent of how each individual had participated in the research (Rao and Pennington, 2013; Brüggen et al., 2011), using the Pearson^2 test because the variables are qualitative. The results indicated that the distribution of these variables does not show significant differences between the two groups compared. In other words, the two groups are similarly distributed for the main variables used to characterize the online user (age, sex, educational level and Internet experience).

Without denying the importance of these findings, it will be more interesting to see if this similarity is also repeated in questions related to the behavior of the online consumer in the tourism sector. The mean values of each variable by access channels reveal the existence of differences in the *confirmation of expectations*, *satisfaction with previous experiences*, *honesty of the community*, *affective commitment to the community*, *active participation*, *loyalty to the supplier* and *intention to follow the advice obtained*. In most of these, those who participated through the social networks have lower average values, except in *loyalty to the supplier*. There are no significant differences in *perceived usefulness* or in some items of the trust scale. To sum up, 17 out of the 32 questions in the Likert scale format show a significant difference of means between both groups.

It is possible that these differences are due to the better quality of the data obtained through the online social networks. The *common method bias* analysis for each sub-sample reveals better results for the data obtained through the social networks. The *common method bias* is a phenomenon that can arise as a consequence of compiling the information from the same source and at the same time, so it may be present in our sub-samples because the data were collected from a self-administered online survey. To test for the existence of *common method bias* in each of the sub-samples, we used the statistical software EQS and followed the indications of Bagozzi et al. (1991). Although results show that there is a small percentage of variance due to the common method employed in both sub-samples, the main source of variance comes from the constructs considered, so we can conclude that the data obtained have a more than acceptable quality (García et al., 2008). Nevertheless, comparing the results for the two sub-samples, it can be seen that, in spite of having a

slightly higher percentage of error, the data obtained from the social networks have a higher variance due to the theoretical constructs and a lower variance due to the common method (see Table 5), so it is of better quality for carrying out later analyses of causality between the variables considered.

Table 5. Common method bias (Row percentages)

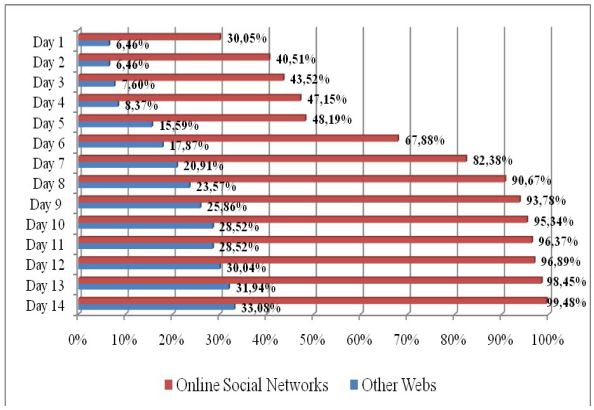
Access method	% variance due to traits (constructs)	% variance due to method	% variance due to error
Online social networks	73,95 %	6,66 %	19,39 %
Other tools	66,74 %	15,65 %	17,61 %

Source: Own elaboration

Finally, we will analyze the time necessary to collect the information. As can be seen in Figure 2, there are important differences between the two access channels with respect to the time necessary for the fieldwork. Access through social networks shows a much faster reply; for instance, on the first day, we received 58 valid questionnaires (30 % of all those received). At the end of the first week, we had received 82,4 % of the replies through social networks, and 99,5 % seven days later. That is, in 14 days, we had received almost all the replies to the questionnaires. Those that accessed the questionnaire through other methods answered 17 questionnaires on the first day (6,5 %), dropping to 8 a week later and to 3 after two weeks. Thus, in the first week we had received 20,91 % of all the replies, and 33 % a fortnight after beginning the fieldwork. Ilieva et al., (2002) find similar figures in their research.

Therefore, the use of online social networks to distribute the questionnaire surpasses all our expectations because we can finish the fieldwork in two weeks, which is a very fast data collection process. This finding means an important shortening of the fieldwork in comparison with estimations carried out in other countries (e.g. Ilieva et al., 2002; Pratesi et al., 2004).

Figure 2. Accumulated percentage of valid questionnaires received each day



Source: Own elaboration

To sum up, both groups present similar sociodemographic characteristics, so we can affirm that the promotion of the research through social networks has allowed us to obtain a greater number of data, without compromising the representativeness of the sample, and to increase the quality of the research results.

CONCLUSIONS

Ever more frequently, when the research focuses on an online environment, researchers turn to a method of data collection on the Internet through voluntary individuals (e.g. Flavián et al., 2006; Bagozzi and Dholakia, 2006; Díaz de Rada, 2012). This is because the use of self-administered online surveys has many advantages for researchers compared with other traditional methods of data collection. Nevertheless, the use of these self-administered online surveys means employing a sample of volunteers, which can make it difficult to obtain a representative sample of the population under study. This aspect may be a serious problem because the data collection process determines, to a great extent, the quality of the research and the possibility of generalizing the results obtained. Though some authors (e.g. Baatard 2012; Hansen and Tue Pedersen, 2012; Blasius and Brandt, 2010) have ecommended preselecting the sample through an e-mail invitation, placing links in well-known Internet portals and offering incentives for participation (Dykema et al., 2015; Singer and Cond, 2013), mailing lists and a prize draw among the participants in the promotion of the research to avoid this problem, no methodology yet guarantees the obtaining of representative samples when using self-administered online surveys. Because of this, with the aim of advancing in this topic, this study adds to the previous recommendations the use of online social networks as a promotional tool for self-administered online surveys.

Online social networks are a very interesting promotional tool because it is possible to find in them a large number of individuals who can represent the different strata of the population to be analyzed. For example, focusing our attention on the most important social network at the global level, we can see that Facebook has more than 1590 million monthly active users and 1040 million daily active users (http://newsroom.fb.com/company-info/). Apart from the general social networks like Facebook, Google+ and Twitter, others focus on a specific interest such as the world of travel, gastronomy, music or certain brands (Kozinets, 2002; Flavián and Guinalíu, 2005). Because of this, it is reasonable to imagine that, for any market research that one wishes to carry out, there will be social networks on the Internet where one can find a large number of individuals that belong to the population under study.

Our research focused on obtaining data about Spanish online consumers of tourism products and services and, due to the importance of this sector in Spain, we wanted to guarantee the quality of the study by obtaining a representative sample that would allow us to generalize the results obtained. Our results allow us to conclude that the use of social networks favored the obtaining of significantly more data, of higher quality (fewer outliers), fewer partial replies, greater speed of reply, and without compromising the representativeness of the sample. No significant differences were found between the socio-demographic characteristics of the participants who accessed the questionnaire through the promotion in social networks and those who participated through other channels, though some differences were found in the substantial variables of the research. Furthermore, the socio-demographic characteristics obtained in our sample are very similar to those offered by the most prestigious studies available on Internet users: EGM, ONTSI, Cooperative Congressional Election Study-CCES and the Cooperative Campaign Analysis Project-CCAP (Ansolabehere and Rivers, 2013), Harris Interactive Web and Knowledge Networds in USA (Weisberg, 2005), LISS in Netherlands (Blom et al., 2015; Scherpenzeel, 2011), etc. Taking all these into account, and with the aim of obtaining more participants and guaranteeing the representativeness of the sample obtained, it would be convenient for future market research that uses self-administered online surveys in the information collection process not to forget the use of online social networks as an element for research promotion.

In spite of the interesting implications that derive from our results, this study has a series of limitations that open new possibilities for future research. Firstly, one of the main limitations of the study is that, due to the local framework of the research, the individuals who have participated in the study are Spanish-speaking. Although the results allow us to conclude that, in this particular case, research promotion through online social networks has helped us to obtain a representative sample of individuals in spite of using a self-administered online survey, it would be convenient to corroborate this methodology with a wider sample of consumers, especially in cultural terms. This would permit the confirmation of the suitability of social networks for obtaining significant samples when the information collection method is the self-administered online survey and would assure that the methodology is independent from the cultural context in which it is applied. Moreover, this study has only analyzed online consumers of tourism products. With the objective of generalizing the results, it would be interesting to use social networks as an element of promotion in researches that study a greater variety of populations. Another interesting extension to this study would be to use social networks as a promotional tool not only for self-administered online surveys, but for any type of survey, because these networks may help to increase the number of participants in a study without investing in big advertising campaigns.

Lastly, it would have been interesting to consider the time employed in each form of access in order to know the cost per questionnaire filled in and, thus, be able to make estimations about the total cost of the research, as has been done in other studies (Bech and Bo Kristensen, 2009).

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