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SOCIAL NETWORKING SITES AND COLLABORATIVE LEARNING IN TOURISM

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Social networking sites and collaborative learning in tourism

ABSTRACT

This research is intended to identify the key factors that make online social networks become useful environments for professional development and knowledge exchange among tourism professionals. We also want to understand how tourism professionals are using virtual networks for exchanging knowledge and how users perceive that social networking sites can help lifelong learning. Our results show that tourism professionals tend to use social networking sites more

for increasing their professional relations and less for exchanging knowledge, though they perceive that autonomy, openness, diversity and interactiveness influence their perceived usefulness of these sites for exchanging knowledge. Finally, we conclude that for professional development and efficient knowledge exchange social networking sites need better resources to facilitate better moderation of the interaction between members.

KEYWORDS

Social Networking Sites, Tourism Professionals, Professional Development, Knowledge Exchange, Connective Networks of Knowledge



INTRODUCTION

In the network economy, where information and knowledge exchange are key for companies to innovate and gain competitive advantage, social learning has become a normal practice for students and professionals interacting and cooperating in common interest groups such as virtual communities, many of them hosted inside social networking sites. Tourism professionals and students use online social networks as cross-platforms to interact with friends, peers and colleagues while exchanging professional knowledge, overcoming what have been traditional barriers to professional and inter-organizational cooperation, strong competence and diffidence among tourism actors (Walder, Weiermair, & Sancho Pérez, 2006). Traditionally, innovating and sharing knowledge between tourism professionals has been difficult (Barras, 1986; Chalkiti, 2012; Hjalager, 2002; Miralbell, 1999; Reverté & Izard, 2011; Sancho Pérez, Maset Llaudes, & Martín Vallés, 2003; Sancho Pérez, 2008; Srivastava, Bartol, & Locke, 2006) due to endemic distrust and a fierce competition among tourism companies (Trejos, 1992) paralyzing innovative activity by firms (Sancho, Cabrer, Gonzalo, & Rico, 2004).

LEARNING AND KNOWLEDGE EXCHANGE IN SOCIAL NETWORKING SITES

Online social networks have an extraordinarily high educational potential, especially from a new perspective of education and lifelong learning and taking into account the social nature of knowledge construction. However, depending on the design and the degree of development of its own tools and applications, some social networking sites, such as *Facebook*, are not yet the best choice for implementing a collaborative project, especially if the requirements for management and flexibility in learning are high. Instead,

they gives access to lots of resources and information in an open and universal way, which is very useful for learning (Llorens & Capdeferro, 2011).

As a collaborative learning environment, the social networking sites and the Web 2.0, based on the generation of user content facilitate the creation of personal knowledge environments in different ways, with users deciding which instruments and resources to use for interaction and exchanging knowledge.

This idea of personal autonomy in learning is directly related to the personal learning environment (PLE), understood as an environment where people, tools, communities and resources interact very freely (Wilson, 2008) so that learning control is shifting from the institution to the student. PLE points to the idea of student empowerment inside the Web 2.0, creating a new concept of e-learning 2.0, which takes a new approach based on the free combination of simple but complementary tools and combined social networking services such as blogs, wikis, social networking software and others to support the creation of learning communities (Downes, 2007a).

From a collaborative perspective, one of the ways in which virtual communities can be organized for learning is in the form of practice communities, which have been shown to be a very suitable environment for collaborative creation and exchange of knowledge (Wenger, 2009). As in the case of networks for knowledge exchange among professionals, members have great autonomy of interaction and involvement. These open networks where peripheral participation is important, require moderators who can lead and coordinate the tasks and rhythms of the functioning of the communities. This is an organized structure that is able to take advantage of open and flexible resources of Web 2.0 and social networking sites, as shown in table 1.

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Table 1. What performances and features required for a technological platform of a virtual community of practice are available in the four social networking sites? Adaptation of the author from (Wenger, 2001)

FEATURES / PERFORMANCES	FACEBOOK	LIKEDIN	NING	TWITTER
The home page where the existence of the community remains evident and explains the scope of action and activities	Yes	Yes	Yes	No
Discussion area for different discussion topics	Yes	Yes	Yes	Yes (using <i>hashtags</i>)
Space for making occasional queries to the community or community groups	Yes, but integrated in the group's wall	Yes	Yes	Yes (using <i>hashtags</i>)
Members' Directory with information on their areas of expertise with respect to the domain of the community	Yes (partly available, only each member's profile)	Yes (partly available, only each member's profile)	Yes	Yes (partly available only each member's profile)
Shared workspace for collaborating, discussing or meeting synchronously	Yes	No	Yes	No
Repository of documents from its own knowledge base.	Yes (Photos, videos, and external links to other repositories)	No	Yes	No
A search engine efficient and powerful enough to find the information about the knowledge base.	Yes, but not powerful enough	Yes	Yes	Yes
Tools for managing and coordinating the community, which allows the identification of those who are more actively involved, which documents have been downloaded, what is the traffic within the community, what documents need to be updated, etc.	Yes, (cannot register each member's activity)	Yes	Yes	No
Easy to learn and operate, without requiring time to learn how to make best use of it	Yes	Yes	Yes	Yes
Easily integrated with other applications and programs requiring little investment in the community.	Yes	Yes	Yes	Yes

PERSONAL KNOWLEDGE NETWORKS

Out of this organized structure there are other ways professionals can exchange knowledge in the virtual environment. Often when professionals try to manage

social networks for knowledge exchange autonomously, this is usually not done through collective or group interactions, as happens in communities of practice. Instead, the predominant relationships are within personal networks at a dyadic (person-to-person)



level (Huber, 2011). According to Huber, this feature seems to be part of a new social trend in modern society; where people increasingly build their social networks around themselves, individually. This is phenomenon, called *networked individualism*, is a shift between the group-based society towards a society based on individualized personal networks (Wellman, 2002). The autonomy of the members plays a fundamental role in this kind of relationship.

The second relational level of intra-firm personal knowledge networks connects knowledge communities from different organizations, bridging external nodes or integrating structural holes (Burt 1992).

Within social networking sites, dyadic relations can be maintained through direct, private, or even real-time conversations with messages using *chat* as easily as group relations. Furthermore, external and transversal connections allow the transfer of contacts between social networking sites, and the establishment of new relationships with contacts of other members. On social networking sites, such as *Facebook*, *Twitter* or *LinkedIn*, users can easily find the contacts of any member, blurring all the boundaries of communities and groups created within social networking sites. However, the design of social networking sites reinforces individualism within a context of a social network of egocentric networks (Llorens & Capdeferro 2011), in which each member's page is used to publish the person's identity, likes and hobbies, pictures, thoughts, while, through the member's wall, friends or contacts can add comments etc. Intense collaborative knowledge sharing occurs here in dyadic relationships. What seems obvious is that within social networking sites interaction occurs at both levels; one to one and many to many.

CONNECTIVISM AND CONNECTIVE KNOWLEDGE NETWORKS

Some recent models of learning, such as connectivism, tend to blur the boundary between formal and informal learning as a result of the potential of collective repositories of knowledge, such as social online networks (Llorens & Capdeferro, 2011) also known as social networking sites. Professionals use many of these sites for building their virtual communities to interact with peers and colleagues.

When virtual communities dedicated to learning and sharing knowledge want to be successful, they need special features such as (1) "openness", as a factor facilitating the free flow of communication within and outside the network; (2) the member's "autonomy" in managing their relationships and content, and (3) the "diversity" of members and ideas as an opportunity to obtain new information and knowledge. In connectivism Downes and Siemens relate these features with a conceptual framework to explain the dynamics of the connectivity of knowledge in networked learning from a social constructivist approach. Personal learning networks are formed from proper connections to learning communities (Downes, 2006, 2007b; Siemens, 2005, 2006).

The distribution of knowledge in all corners of a knowledge network is one of the fundamental features of connectivism. In this sense, learning communities are nodes that are part of larger networks, so they can have characteristics of the potential network and their weight as a node in the network depend on the concentration of knowledge or even the number of individuals who surf around (Downes, 2008).

The most important characteristic features of connectivism are (Siemens 2005):

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- Learning and knowledge are based on the diversity of opinions.
- Learning is a process of connection of specialized nodes or information sources.
- Learning may reside in non-human appliances.
- Promoting and maintaining connections is necessary to facilitate continual learning.
- The ability to see connections between fields, ideas and concepts is fundamental.
- The validity of knowledge (precise and updated) is the goal of all connective learning activities.

In connectivism, the starting point of learning occurs when knowledge is driven through the process of connecting the individual with the learning community, which also provides information (Kop & Hill, 2008). These communities are *clusters* arising from overlapping areas of interest in order to interact, share, discuss and reflect together (Siemens, 2003). The diversity of views and opinion fosters learning and generates knowledge (Siemens, 2008) so that individuals must negotiate with communities. Therefore, two of the main skills of the individual that contribute to learning, are seeking current information and filtering out irrelevant or secondary information. The reason is that, given the abundance of information, acquiring new knowledge is more critical than what we know at the time, which may have become obsolete (Siemens 2008).

The importance of knowing how to make decisions based on the information is crucial in the learning process, as, in this cyclical process, individuals are connected to a network to share and find new information that will change their beliefs and what they have learned, linking them to a new network to share these ideas and find new information and new knowledge (Siemens 2008). Thus, Siemens sees learning as a process of knowledge creation,

not merely consumption. In this sense, personal learning networks are formed according to how individuals organize their own connections to learning communities, which is linked to their self-efficacy and autonomy.

In the learning process, the individual may traverse multiple domains of knowledge (Siemens 2008) and can reach the outskirts of porous networks of knowledge that will establish interdisciplinary connections. Therefore, according to Siemens, a fundamental skill of individual connective networks is being able to identify the connections between networks, ideas and concepts (Siemens, 2008).

These features make connectivism have achieved such prominence because browsing the web 2.0 and social networking websites, which form a large global network of knowledge, is a reference environment for such processes of generation and exchange of knowledge.

CONNECTIVE LEARNING IN SOCIAL NETWORKING SITES

Conversation and collaboration have been identified as very important in the learning process, but what has changed is the scale at which the communication occurs, thanks to the new environment of the Internet and social technologies (Kerr, 2007). The networks in which people can communicate can be large or spacious, but the main features that these networks should have to facilitate knowledge development are: (1) encouraging diversity, (2) being open, (3) allowing autonomous process management, and (4) facilitating connection through interactivity (Downes 2007a; Siemens 2006).

In connective knowledge networks (Downes 2007a; Siemens 2006) openness and autonomy



are fundamental factors, as they facilitate external and cross-connection control and the participation of individuals. This would make social networking sites good platforms for connective learning.

Openness is the mechanism that allows members of a community to have access to different perspectives, which can be heard, discussed and exchanged between members. If a community is open, there is a sufficient flow of information to generate new knowledge (Downes 2007). Open knowledge networks facilitate fluid communication without internal constraints and external boundaries. They are easy to join and to leave and there are no limitations on member participation.

On social networking sites, individuals have access to external connections with other members, either among different social networking sites or after incorporating contacts from other applications, such as a personal address book. This fosters an open structure of social networks connecting them with other dispersed networks (Boyd & Ellison, 2008) so new personal networks can be created around topics of interest. Through openness, on social networking sites, users can autonomously manage their contacts and the way they interact with them.

Autonomy refers to the capacity of members to contribute voluntarily, interacting with other members independently of their knowledge and values, and not depending on other agents. As in connective knowledge networks, users of social networking sites manage their participation, and the features of the web sites that can help them to interact and exchange knowledge, autonomously. This includes the freedom to manage their relations and participation, and the freedom to choose the features and applications for this purpose. From the perspective of Personal Knowledge Environments, social networking sites offer

individuals autonomous management of the required services for learning.

Diversity or heterogeneity of members, their behaviour, their points of view and the content flowing inside the knowledge networks are fundamental in the construction process of learning or co-modification of knowledge. Diversity appears through structural holes and is an opportunity for access to new information and its integration into the network, which, in communities of practice, would be the periphery.

Interactivity is another decisive factor for the success of connective networks of knowledge (Downes 2007b) and refers to whether knowledge is the product of an interaction between the members, or simply the aggregation of members' perspectives. Interactivity refers to knowledge produced in the network as a result of the connection, rather than simply released. Therefore, interactivity involves the way the knowledge is generated, collectively and collaboratively, and whether in this processes it is reviewed and re-developed or reified through members' participation. Interactivity also implies that knowledge is complex and does not belong uniquely to an individual, but rather is the result of the member's participation.

Mutual reciprocity is essential in interaction as it influences the **trust** between the members and the community (Gefen & Straub, 2004). Trust is understood as a set of specific beliefs dealing primarily with the integrity, benevolence and skills of the other members of the group (Gefen, Karahanna, & Straub, 2003; Mayer, Davis, & Schoorman, 1995). In other words, trust is important in the performance of computer-assisted social networks (Nelson & Coopride, 1996), in exchange of knowledge (Nahapiet & Ghoshal, 1998), in creating organizational value (Tsai & Ghoshal, 1998)

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and in online transactions (Gefen et al., 2003; Gefen & Straub, 2004; Pavlou & Gefen, 2004). Trust is therefore particularly important in the olitivo behaviour, as would be the exchange of knowledge in a virtual community. as it builds and maintains exchange relationships, which can foster knowledge exchange (Blau, 1964).

For a community to succeed in connective learning, openness, autonomy, diversity and interactivity are critical (Downes 2007b). Virtual communities thus need the technological platform the information systems they use to make these possible. Social networking sites have features and technological solutions that enable communities to interact within these four driving characteristics of knowledge generation in a community. In order to understand whether users perceive that social networking sites are especially useful as environments for virtual knowledge communities to generate collaborative knowledge through interactivity, we have studied whether these four factors influence users' perception of usefulness, which has been proved to be decisive for usage.

The aim of our research is therefore to test whether these characteristics can serve as constructs to assess how they influence the members of knowledge communities in adopting and using social networking sites.

METHODOLOGY

We conducted a case study of the virtual communities of tourism professionals found on the Internet in which members can improve their professional development, strengthening their skills and knowledge and improving their personal career. As we observed, social networking sites were used by these communities as informal learning platforms for professional development.

In total we found 28 virtual communities distributed on the following social networking sites: *LinkedIn* (13 groups and 65,000 members), *Facebook* (8 groups and 3,133 members), *Ning* (6 communities and 14,136 members) and finally a virtual community, *Hosteltur*, with its own platform and 3,343 members.

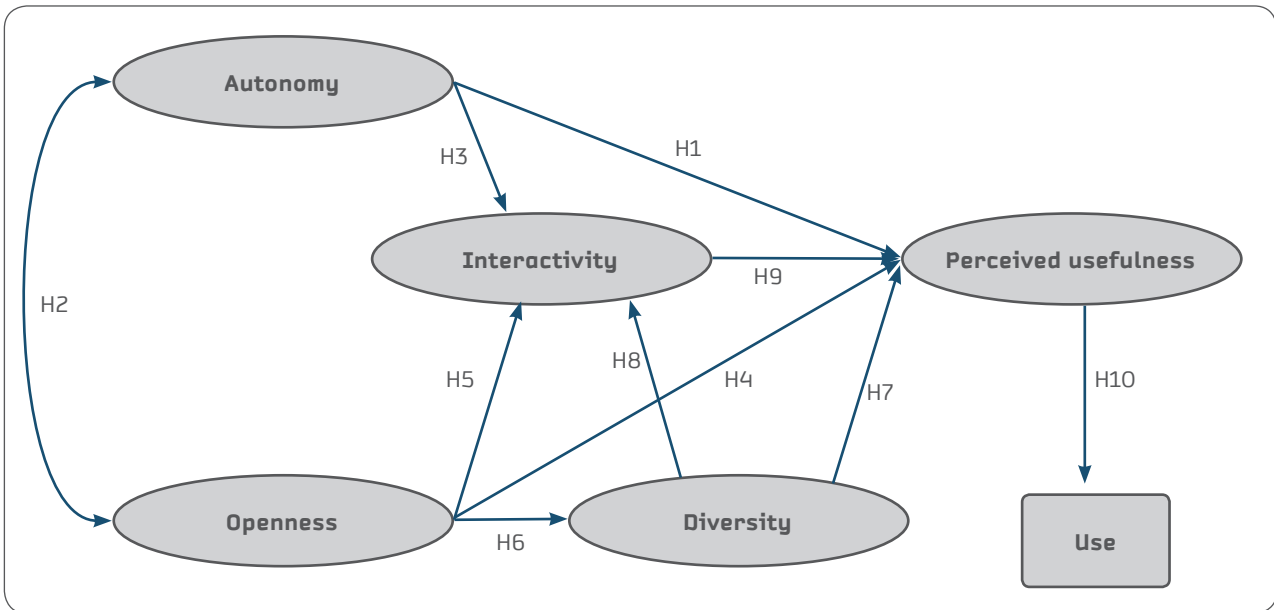
We designed and tested a survey, inviting members of the 28 virtual communities to respond through a questionnaire on the Internet, designed according to the variables identified in the theory. Questions were grouped in four sections: (1) socio-demographic data, (2) information on Internet behaviour and the use of technological resources, (3) information on the perceived factors that influence knowledge exchange on social networking sites and (4) information on the features influencing the adoption of social networking sites.

In a sample of 363 respondents obtained with the sample size formula for infinite population (Novales Cinca, 1996), 56.8% were males, and 44.7% females. The largest age group were individuals between 30 and 44 (48.3%), the second largest were those between 20 and 29 (23.4%), the third, those between 45 and 54 (20.6%) and the smallest, those older than 55 (7.6%). 48.85 of individuals were working in tourism companies mainly in service providers; 43.3% working in knowledge organizations related to tourism (academia and consultancy), and only 9.9% in tourism authorities (DMOs and local, regional or national government). 53.7% of respondents were earning less than 30,000 USD per year, and 86.5% of individuals had achieved a degree at the University (37.2% of bachelor's degrees and 49.3% postgraduates)

To study the usefulness of the Social Networking (SN) sites for knowledge exchange and the impact among the factors we analyzed the data with questions to be answered on a *Likert* scale in accordance with the model shown



Figure 2. Acceptance model for social networking sites for knowledge exchange and informal learning



in figure 2 following the hypotheses driven in the model. The analysis was carried out with the structural equation model using SPSS v.19 AMOS through an exploratory factor analysis, first and then a confirmatory factor analysis, checking the validity of the measurement model and the structural model.

FINDINGS

The descriptive analysis showed that the majority of the professionals we have studied had long experience in using the Internet (80.2% used it for more than 11 years) and had good skills in using social networking sites (63.6% reported having a high or very high level of mastery of these sites). This was a group of experts who had gained enough knowledge in using the SN sites, perceiving SN sites as useful in their careers (63%), and efficient for knowledge exchange among professionals (62%).

The data shows also that even there is a big consensus among the members of the

virtual communities of tourism professionals in considering online social networking to be good environments for learning and for knowledge exchange; they are more motivated by learning how to network than by generating new knowledge. They also have discrete expectations about find professional opportunities in their online social networks.

According to the confirmatory factor analysis, we can say that the level of autonomy users perceive has a direct effect on their interaction and on the perceived usefulness of SN sites. Meanwhile, autonomy and openness have a correlated impact on each other, that is that the increase of one influences the increase of the other. In turn, the openness of SN sites influences the diversity of members and ideas. Diversity also has an important influence on the level of interaction, which could be a motivator for members to contact one another or discuss different ideas. The level of interaction has a direct influence on the perceived usefulness of the SN sites, which has a direct impact on usage.

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Results show, however, that openness does not influence the perceived usefulness of SN sites directly, but rather indirectly, as diversity that impacts the perceived usefulness of SN sites is influenced by openness. Nor does openness directly influence user's interactions although diversity, which is perceived as being influenced by openness, has direct impact on the level of interaction inside the SN sites.

While tourism professionals using SN sites have great interest in improving their relations (62%), they tend to share knowledge and publish information (79% of individuals perceive a high level of participation) rather than interacting with other members (only 57% perceive much interaction between users). Maybe more open communities with more diverse profiles of professionals and ideas could increase interaction. In a collaborative learning environment, the generation of new knowledge is important, although from our study, a slight majority stated they were involved in generating new knowledge (57%).

Even though 65% of the professionals are satisfied or very satisfied with using SN sites only the 53.7% feel trust among the community, and 47.1% feel committed to their networks, while only 44.9% feel loyalty to other members. As a result, we can conclude that virtual communities inside social networking sites are highly appreciated and used for socializing, but that the level of commitment in exchanging professional knowledge seems less significant.

DISCUSSION

SN sites are used principally for socializing and less for professional development and knowledge exchange. On the other hand, although SN sites can help to overcome the traditional distrust existing between tourism professionals, which is a fundamental condition for knowledge exchange, our study shows there

is still a low level of trust and commitment between the members of virtual communities of tourism professionals inside SN sites. In other words, although SN sites have excellent features for knowledge exchange, this does not guarantee a high level of trust, commitment and loyalty of their members.

Tourism professionals perceive that autonomy, diversity and openness inside SN sites encourage interaction among members and increase the use of social networking websites for knowledge exchange. Online VC inside SN sites are organized as open, unlimited networks where flexibility of relations, autonomy of members, openness of structures and diversity of relations between members and ideas facilitate information and knowledge exchange.

Professional associations can take advantage of SN sites to improve professional development, although in order to increase the levels of trust and commitment of their members, which are necessary for social learning, they should integrate features that help moderators to monitor and organize the interaction inside working groups, as it happens in "virtual communities of practice" (Wenger, 2009).

This research may have some limitations, firstly depending on the process by which the information has been gathered, although other studies have used the same methodology to obtain data through voluntary responses to a questionnaire posted on the Internet (Chiu et al. 2006; S. H. Kim et al. 2009; T. C. Lin & Huang 2008; C. L. Hsu & J. C. Lin 2008; De Valck et al. 2007; Chen & Hung 2010). Another limitation could be the sample we have studied, as the respondents to the survey are members of the virtual communities of tourism professionals with special interest in the use of social networking sites, and they probably belong to the group of the most active and participative experts in their communities. Maybe a more



diversified group in the level of expertise could have provided other results. Finally, we believe that having collected this data between December 2009 and July 2010 could also limit the validity of these results, because since 2010 the use of social networking sites has dramatically increased and users' experiences may also have influenced their perceptions.

FUTURE RESEARCH

One of the conditions of connective learning is that the tutor or instructor disappears and it is the students who direct their own learning process, creating knowledge and connecting to remote networks in an informal learning environment. Some believe that the tendency to interact with people with similar or related ideas can reduce the level of commitment in e-learning (Norris, 2001). However, others believe that the figure of the instructor is useful and should take a leading role, but through dialogue with the students as a process of learning and knowledge, rather than conversations that can remain at individual level (Freire & Macedo, 1999). The debate

is open, raising questions such as whether instructors should only be facilitators, as it is the case in many in e-learning programs (Salmon 2004). In a study it was found that students prefer the guidance of a tutor in using resources and activities to validate information and to assist them in critical thinking, instead of managing it on their own (Kop, 2008).

Given the radical proposal of connectivism which means the tutor's role is diminished, one wonders whether autonomy, understood as a capacity to take responsible decisions in the direction of a learning process, does not require special training. In this case, virtual communities of professionals should have sufficient training and training management skills in order to achieve learning through a connective knowledge generation process without moderators or tutors.

Future research should study of the limitations of social networking sites for learning and knowledge generation in greater depth, attempting to identify whether technological constraints are more important than attitudinal or the relational ones.

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