

City 2.0 and Tourism Development

Karim Fraoua and Christian Bourret

Equipe Dispositifs d'Information et de Communication à l'Ere Numérique (DICEN)
Conservatoire national des arts et métiers, Université Paris-Est
77454 Marne-la-Vallée
France
fraoua@univ-mlv.fr

Abstract. Carefully cities have to evolve in order to help tourist during their travel. The huge use of web 2.0, must force the cities to be more and more implied in this area. The role of referenced website and those of community manager will be greater in the future and contributes to the attractiveness of the territories. Nowadays, the social web is obviously essential strategy in information retrieval or gathering during holidays preparation and will be more and more important to help travellers during the travel.

Keywords: tourist, visitor, marketing, website, city, attractiveness.

1 Introduction

The idea of this paper is to help the whole community of tourism to make travel more and more pleasant. Two ideas will emerge from this work, one is creating community managing in the official website of the city gathering of course all the information, undeniably useful to tourists such as places to visit, train schedules or bus, the location of the taxi station etc. For this purpose, we can imagine a wifi born located in some place of the city where the tourist can be connected and the map of the area should be presented. This free connection, could help the tourist during his visit, furthermore the use of mashup approaches using different techniques are affordable nowadays. The approach of developing these technologies by official website is to respond to a new behavior of tourist when they are visiting the cities, they are in needs of more information since they are optimizing their time during their holidays and in order to make their vacation more happiest which is their goal and those of the city. We know that the words of mouth are efficient to incite other tourist to visit the city. The new way to the transmission of this mode of communication is electronic and named the web 2.0

In fact, they want to relate their holidays to others, if they have spent a well moments, and if the city was in a positive role to help them during their holiday. The majors problems encountered during the holidays are well known as the place to visit, in some cities, they face to the cost of things since they don't know the fair prices, the bus or train timetable, the location of taxi station and the rules of the city. One of the

advantage offered by the city 2.0 is that appears as an official website which can grow reliability of the site [1] in the eyes of tourists who will use the services offered by the city under the control of community manager.

Nobody can deny that nowadays the use of Web 2.0 has become commonplace [2]. Citizens use more the collaboration fields and the interaction with others through new connected tools, that can be mobile phones, digital tablets, or other tools since the wifi signal is available everywhere, this will allows an easily use of these technologies and the participation process. Social media have changed the way of many people how they get information about news on in their communities, and global events [3]. They provide new ways to share information and to interact with others. Social media tools are designed to facilitate social interaction and diffusing information through society for the creation of new contents including blogs, wikis videos, music, pictures and podcasts with more and more louder weight and social networking sites such as facebook [4].

The social web is a phenomenon defined by connecting people to each other in an area without border which has become the digital space or digital territories. Users work together to share information verified or unverified, under declared or avatar identity, not hesitating to rate any services including hotels [5] and sharing experiences with other members. Generally, social networks are used to afford various types of activity whether commercial, social or some combination of the two. We analyses technological mediation through electronic word-of-mouth and involvement factors related to virtual dissemination of travel narratives on the behavior of other tourists. Moon [6] indicate the major role of interaction between people which could permit a higher expected outcomes.

2 City 2.0

The goal of e-government portals is to provide public information [7, 8]. This portals use classical design of website such menus, different links to another interesting website, connecting to intra or extra search engine and some of them use multimedia tools such as video, audio, forums or maps named Mashup techniques [9], all these effort are made to provide valuable data and information to citizens through different tools as Tablet, mobile phone.

The introduction of Web 2.0 tools and the use of new platforms such as mobile devices and social media permit a new mode of communication and participation and more and this collaboration between the city and local actors, creating the potential for a new local e-governance model for the back-office side, which will permit to update the information offered to the visitors [10]

The web has great potential for promoting regional tourism. An effective website can reach global audiences, being accessible every time and from any place. The apparition of collaborative tools such as wikis and blogs for the first category and a real-time interface such instant messaging tools like a social web. In fact Web 2.0 is considered as second generation of Internet-based services, where the social networking websites take more and more places, wikis, communication tools, and folksonomies permits to share knowledge or to enhance online collaboration.

The city must be very careful when they design the folksonomies or a social tags [11] used by the visitors. Indeed the visitor coming from different country, the community manager has to be aware about the terms used by tourist since they don't have the same cultural approach and they may confuse some terms. In this way, during the collaborative creation, one must for evidence annotate and categorize content. Indeed, where the ontologies and metadata is generally created by expert using special vocabulary [12], the novice use free words. To manage this controlled website, we can consider that the best issues are is to encourage visitors to develop terms selected from rigid terms. We must remember that this vision is a scientific approach web. Ontology is a representation of concepts with a domain and the relationships between those concepts [13]. It is a shared conceptualization of a domain, which is in our case a tourism domain where the concept is easily shared. It is certainly a complex and complicated task but it is necessary so that the city can offer a quality service especially for tourists who do not tend to leave their accommodation.

Web 2.0 has revolutionized the way people communicate across the Internet. Web 2.0 has transformed the Web into an environment enrich user experiences by allowing them to share a different formats of shared concept and information using a variety of data formats, as text, video, map, music and so on. The web 2.0 facilitate the interaction between multiple users whatever their location and their culture, leading to creation of a new shared concept through the collaboration and sharing of information.

The websites that introduce online web 2.0 services is considered as successful, the huge use of twitter or facebook are now considered as evident by users to interact with the portals, and it will be very important to the city to promote different part of the city as a tools of web territorial marketing to enhance experience of the tourist and growing the activities of local industries. This design of the network, taking advantage from the new sociology of citizens in general, improving relationships, create new connections, and enable public officials to deliver more complete information [14].

Social web account can be a very interesting tool to deliver a hot news or to send messages with news, warnings, emergency response, from the community manager during a disaster during the typhoon at Taiwan [15] or in the case during the storm in New York city. The use of facebook could connect visitors with officials of tourism or other visitors to share information or a good plan to help others.

In a final comment, we suggest that municipality can incorporate comment boxes or modern tools within the portals to gather opinions of visitors, in order to improve the quality of service provided. The main objective is to create new design of city 2.0 through a website including all the modern tools with a clear web 2.0 strategy and a general perspective of interaction between visitors and the city and other official agency related to the domain.

2.1 Collaborative Process with Local Players

The cities, since they are visited by tourist, and whatever their situation versus economy of tourism must collaborate with local actors of tourism whatever they are, hotels, cafes, restaurants, museums, ...The role of the cities must be greater than

observed, they have to play a central role in the collaborative process of tourism development like in marketing process through their presence in the web 2.0 sphere.

In the tourism industry, the goal of actors is to enhance the tourist pleasure during their visit. These may push them to work together to reach this goal sharing experiences on a common issue, as the official city website, exchanging ideas and expertise [16] by combining knowledge [17]. The government agencies play a key role in this development, aggregating other actors in such activities devoted to visitor, through general politics of tourism of the cities.

The official or government's representations as municipalities websites is a central components of public information sharing networks, which include the cities and non-official actors collaborating, and sharing information. This cooperation between different actors around this project could be a new model of territorial intelligence about creating value for a visitor. This new basis of work of actors on digital network is very important.

The notion of centrality is a key concept in the question of collaborative process through the network. It refers to the position within the network that an individual organization has. The conclusion about this position is who to lead others across the information process. The central occupation permits a great role or power of influencer on others and may coordinate the action of others or influence their opinion [18]. It will have in the network's coordination functions.

Gray and al. [19, 20, 21] indicates clearly the definition of theories about collaborative processes. He suggests that collaboration can be defined as a process that combines many actors who must share decision making process among key actors about the future of that domain

Nevertheless it must observe the behavior of the anonymous participation during the web 2.0 cooperation or collaboration. Indeed, impunity of anonymity that the new technologies allow can lead to harmful behaviors result in immediate reaction due to unmet expectations. When free space is not regulated by law, it is the war of each against all, as Hobbes said [22]. The reason is considered as individual and never collective. People act by instinct and passion, the tourist will always thinks reasonably that his holiday could be better, and it is the role of official to lead them to the better and not to the worse.

3 Mashup Exploration in Tourism Design

A mashup, is a new approach of construction of a web page, or web application, that combines data, presentation or functionality from many sources in order to afford to the web user a new services in the same web pages. A huge google services are offered nowadays to the developers to integrate google map into the web pages. In the same way, many tools are offered from IBM technologies to enterprise development that will enhance the web 2.0 uses [23]. The simple use of these techniques allows developing this web site more easily.

It is considered by Maness and al. [24] that the hybrid of two or more technologies or services will create a new enriched service. For example, a new mapping of crime

density is developing using this approach. It consist to present existing information in new ways. The Chicago Police Department publishes a situation of crimes in the city in their local bulletin using this model and shows the crimes that have taken place within the city, and their approximate location [25]. This is a clearly example a benefit use of this mashup-approach by the city and the new “paradigm” of the web 2.0 to the citizen 2.0. The impact of the mashup design on the life of citizen is still under discussion specially the impact on social life and behavior of citizen in general [26].

These new uses of disparate elements in a website are very efficient and it corresponds to the expectation of web user nowadays. You have to imagine the utility to the tourist of a website that contain both places to visit through a map of the location near tourist localization and each of these sites has been rated by other visitors, the site of transport as bus stops, the schedules, taxi stations, trains. We can add for every site to visit the rate obtained by the other visitors or the number of tourist who have visited this site. It will be very incentive from the front-office point of view and it help community to understand why the other site is bad rated or less visited, from the back-office point of view.

There is no doubt that we are in a new phase of consumption of tourism activities, it is still necessary that the tourist is encouraged to visit the city and barriers related to the danger perceived by visitors to be abolished. This will allow the possibility to create a new economic value into all the territories.

The creation of economic value around territories will certainly add value for all stakeholders involved in the project in the city. We explained above that the collaborative process is a great tool for creating values with the involvement of all local stakeholders.

4 Sociology of Modern Tourist

In general, the citizens over the world are increasingly relying on social media for communication with their family, friends, colleagues, businesses and unknown users who share some of their value, concern or interest. The utilization of electronic social media is growing also in a consumer practices and are very relevant to a tourism area, since it is the sector who are more faced to electronic commerce. The influence of electronic social media on holidaymaker's information sharing is a part of our normal practices today when we decide a trip. The tourists are more and more involved in developing and sharing of virtual content. The information shared by tourist information system in relation to interaction aspects of social media, in a context of holiday choices is very important in the life of tourist [27]. In conceptualization point of view, the social media spaces as a novel, unprecedented and revolutionary entity permits the emergence of a new entities in a modern sociology of tourism as the tourist 2.0, the virtually or electronic borders of exchange finally don't constitute barriers, it was initially feared to see people do not sharing these spaces, as a chatroom, these digital domains along cultural lines to systematize and deepen understanding of future citizen. Merely, we admit that there is dominant cultural dimension of Web 2.0 spaces

that constitute the new paradigm of informed and connected citizen utilitarian-driven, aesthetic-driven, context-driven and value-driven.

The study of classical of tourist profiles is a recurring subject in the research on tourism socio-behavioral. Historically, two general groups are distinguished by Wahlers and Etzel [28]. They found that there is an adventurous group, looking for innovative holiday who have an aversion for the so called structured holidays and another group who likes structured and enriched holidays and who prefers packaged and organized vacations. This adventured group of tourist is a high sensation seekers [29], moreover male adventure tourists tended to be higher sensation seekers than females. These groups of novelty seeking tourists perceived international tourism to be less risky than classical class of tourist seeking tourists.

In general some perceived risks associated with tourism, such as food and cultural difference, places to visit, cultural heritage might actually attract the novelty seeker due to their information level and to the neuroeconomics approach which let us to understand more the notion of the risky part due the information level and the huge uses of amenities and services offered by the city as the transports.

Cohen defines a new classes of tourists from a sociological perspective [30], where Plog works of classifying and explaining tourists from a psychological approach [31]. Plog distinguish mainly two groups of traveler: psychocentrics and allocentrics, who travel extensively and tend to be adventurous in their tourism choices [32]. The psychocentrics avoid uncertainty and risk, they prefer to travel as part of a group as they feel that being with others gives them a sense of safety and security and prefer destinations with well-developed amenities. Allocentrics prefer travelling in general alone and visit places that are less visited. The results of Plog shows clearly the segmentation of these different tourists profile with 20 % of the population classified as allocentrics or near allocentrics, and 80% from mid-centrics to psychocentrics.

This above explanation about the social profile of tourist is very important in order to understand to whose this new design of the city 2.0 is dedicated and to whom effort must be made to convince them to visit the city and to explain through the web 2.0 that the risk is low, considering that barrier of income is crossed. From apparition of the web and all related items as the web 2.0, the tourists are more informed and the latest classification can be discussed. The notion of information, as predicted by game theory can reduce or even disappear completely the feeling of risk due to the uncertainty for the tourist. This may lead on the emergence of two novel groups of tourist, those who are informed and the not well informed or risk averse group who prefer gather their information generally from one channel as the travel agencies.

The modern travelers are generally more cultivated due to their implication into their travel preparation and organization, by searching information among the web. Whatever the social level of tourist profile, the use of web in general and social web in particular is now admitted as a source of information. This social observation corresponds to the way of life of the majority of urban population in tourist-sending countries. There is actually a real demand from tourists for access to reliable information. The website of city devoted to the visitors have a real potential for responding to the needs in real time for more effective improved public safety and security or for critical events that can be identified.

5 Game Theory and Neuroscience View on Participative Web

The game theory can assess the behavior of individual versus a decision-making under a rational process [33]. The user having many perspectives, can decide the well-being, as a key factor of his choice process, other utility factors can drive this process as the financial aspect named a reward. The reward as well as the mental system is engaged in economic decision-making.

Neuroeconomics is an interdisciplinary discipline dedicated to investigate in the field of economic-related behavior by using neuroscientific methods [34]. Thus, neuroeconomists examine nowadays in details in the neural correlates what motivate agent or player during his decision-making process. It is admitted that reward and social interaction or biases are central concepts in this discipline. The appearance of neuroimaging tools permits to correlate more easily the brain activities and the considered human behavior as the result of a process of decision-making, weighting costs and benefits of actions to maximize utility (formal or ordinal utility). The problem is that these unmeasured feelings and preferences influence decision-making. One aspect of the neuroeconomic approach is to understand how it can be relevant to this study since the decision of tourist to use or not the structure of the city implies a social behavior in addition to economic classical aspect of reward, so thus regarding to as social decision-making

This let us conclude that the use of official website must be fair and shows the reality of the city to the tourist. It must push the tourist in a social interaction, this implies to understand more deeply the role of neuroeconomy in a social decision-making. Neuroimaging studies have provided further evidence for emotion-based rejection of unfair offers [35].

A social decision-making context leads to examine the effect of expectations, with emotional aspects. In the domain of social decision-making which is closer to the tourism domain, since the tourist are subject to social decision during his holidays in a unknown city, which growth the degree of uncertainty of partner behavior, Delgado and al. [36] using Game Theory and functional neuroimaging explain how the information learned about a partner can greatly influence the decision behavior when paired with the partner, this second partner can be considered as the website of the city. What that neuroscience can bring to neuroeconomics and what impact on the user behavior of web 2.0 in particular when visiting a city. In fact, we can understand that the human behavior is not rational in a first point of view. The situation becomes very complex to understand the reaction of visitors versus the information system in order to make it efficient. The goal is to encourage tourists to use it and allow them to visit several places in the city.

We don't miss that they are under the influence of affective mechanisms, which often play a decisive role in action. These processes have been shaped by evolution of our modern society, things evolve from a cultural point of view, but also through social or normative aspects. Thus, decision-making will be influenced by mechanisms dedicated to social interaction and not only by mathematical mechanisms. By this way, the modern tourist decides sometimes over his economic self-interest and use services that seems not a good investment for him.

6 Conclusion

This work shows that the sociology of tourists has changed in the recent years, they are more connected and drowned in a flood of information continuity process? continues. This information is also impacted by rumors including the use of web 2.0. This new space allows individuals to respond instantly to any event or situation, flooding the space by opinion justified or not.

The appearance of the city in the world of tourists can disseminate information in a clear and credible perspective. However it is still necessary that this space is actually the expression of opinion under the control of a community manager who meet issues and concerns of visitors. This will also be promoted by policies marketing through wifi terminals dedicated to the dissemination of information along the city indicating the places to visit near the terminal, such as museums, cafés, restaurants,

References

1. Carter, L., Bélanger, F.: The utilization of e-government services: citizen trust, innovation and acceptance factors. *Information Systems Journal* 15, 5–25 (2005)
2. Allen, M.: What was Web 2.0? : Versions as the dominant mode of internet history. *New Media & Society* (July 6, 2012)
3. Qualman, E.: *Socialnomics: How Social Media Transforms the Way We Live and Do Business*. John Wiley & Sons (2010)
4. O'Reilly, T.: What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software. *Communications and Strategies* 65, 17–37 (2007)
5. Jeong, M., Jeon, M.M.: Customer Reviews of Hotel Experiences through Consumer Generated Media. *Journal of Hospitality & Leisure Marketing* 17(1-2), 121–138 (2008)
6. Moon, M.J.: The Evolution of E-Government among Municipalities: Rhetoric or Reality? *Public Administration Review* 62(4), 424–433 (2002)
7. Chang-Lee, K., Kirlidog, M., Lee, S., Lim, G.G.: User evaluations of tax filing web sites: A comparative study of South Korea and Turke. *Online Information Review* 32(8), 842–859 (2008)
8. Xue, S.: Web usage statistics and Web site evaluation: a case study of a government publications library Web site. *Online Information Review* 28(3), 180–190 (2004)
9. Dobrev, B., Stoewer, M., Makris, L., Getsova, E.: E-MuniS — Electronic Municipal Information Services - Best Practice Transfer and Improvement Project: Project Approach and Intermediary Results. In: Traunmüller, R., Lenk, K. (eds.) *EGOV 2002*. LNCS, vol. 2456, pp. 199–206. Springer, Heidelberg (2002)
10. Kavanaugh: *Government Information Quarterly* 29(4), 480–491 (2002)
11. Pirolli, P., Kairam, S.: A knowledge-tracing model of learning from a social tagging system. *User Modeling and User-Adapted Interaction*, 1–30 (2013)
12. Sugumaran, V., Storey, V.C.: Ontologies for conceptual modeling: their creation, use, and management. *Data & Knowledge Engineering* 42(3), 251–271
13. Gruber, T.: What is an Ontology. *Encyclopedia of Database Systems* 1 (2008)
14. Ballejos, L.C., Montagna, J.M.: Identifying interorganisational networks: a factor-based approach. *International Journal of Networking and Virtual Organisations* 7(1), 1–22 (2010)

15. Huang, C.M., Chan, E., Hyder, A.: Web 2.0 and Internet Social Networking: A New tool for Disaster Management?-Lessons from Taiwan. *BMC Medical Informatics and Decision Making* 10(1), 57 (2010)
16. Vernon, J., Essex, S., Pinder, D.: Collaborative policymaking: Local Sustainable Projects. *Annals of Tourism Research* 32(2), 325–345 (2005)
17. Bramwell, B., Lane, B.: Collaboration and Partnerships in Tourism Planning. In: Bramwell, B., Lane, B. (eds.) *Tourism Collaboration and Partnerships: Politics, Practice and Sustainability*, pp. 1–19. Channel View Publications, Clevedon (2000)
18. Rowley, T.J.: Moving beyond dyadic ties: A network theory of stakeholder influences. *Academy of Management Review* 22(4), 887–910 (1997)
19. Gray, B., Wood, J.D.: Collaborative Alliances: Moving from Practice to Theory. *The Journal of Applied Behavioral Science* 27, 3–22 (1991)
20. Gray, B.: Conditions facilitating interorganizational collaboration. *Human Relations* 38(10), 911–936 (1985)
21. Gray, B.: *Collaborating: Finding common ground for multiparty problems*, San Francisco (1989)
22. Hobbes, T.: *Leviathan, The Matter, Form and Power of a Commonwealth Ecclesiastical and Civil* (Published April 1651)
23. Lanubile, F., Ebert, C., Prikladnicki, R., Vizcaíno, A.: Collaboration tools for global software engineering. *IEEE Software* 27(2), 52–55 (2010)
24. Maness, J.M.: Library 2.0 theory: Web 2.0 and its implications for libraries. *Webology* 3(2) (2006)
25. <http://gis.chicagopolice.org/>
26. Curran, K., Murray, M., Norrby, D.S., Christian, M.: Involving the user through Library 2.0. *New Review of Information Networking* 12(1–2), 47–59 (2006)
27. Egger, R.: Theorizing Web 2.0 Phenomena in Tourism: A Sociological Signpost. *Information Technology & Tourism* 12(2), 125–137 (2010)
28. Wahlers, R.G., Etzel, M.J.: A Consumer response to incongruity between optimal stimulation and lifestyle satisfaction. In: Hirschman, E.C., Holbrook, M.B. (eds.) *Advances in Consumer Research* 12, pp. 97–101. Association for Consumer Research, Provo (1985)
29. Gilchrist, H., Povey, R., Dickinson, A., Povey, R.: The sensation seeking scale: Its use in a study of the characteristics of people choosing ‘Adventure holidays’. *Personality and Individual Differences* 19(4), 513–516 (1995)
30. Cohen, E.: Who is a tourist? a conceptual clarification. *The Sociological Review* 22(4) (1974)
31. Plog, S.: Why destination areas rise and fall in popularity. *The Cornell Hotel and Restaurant Administration Quarterly* 14(4), 55 (1974)
32. Plog, S.: The power of psychographics and the concept of venturesomeness. *Journal of Travel Research* 40(3), 244 (2002)
33. Hargreaves Heap, S.P., Varoufakis, Y.: *Game theory. A Critical Introduction*, London and New York (1995)
34. Sprotten, A.N.: *Developmental Neuroeconomics: Lifespan Changes in Economic Decision Making* (2013)
35. Sanfey, A.G.: Expectations and social decision-making: biasing effects of prior knowledge on Ultimatum responses. *Mind & Society* 8(1), 93–107 (2009)
36. Delgado, M.R., Frank, R.H., Phelps, E.A.: Perceptions of moral character modulate the neural systems of reward during the trust game. *Nature Neuroscience* 8(11), 1611–1618 (2005)