The smart city apps as the core of place branding strategy: a comparative analysis of innovation cases

Hiri adimendunen aplikazioak lurralde-sustapena egiteko estrategiatzat erabiltzea: kasu berritzaile batzuen azterketa konparatiboa

Las aplicaciones de las smart cities como estrategia de promoción territorial: análisis comparativo de casos innovadores[1]

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Abstract
The phenomenon of the smart cities represents the logical and natural development of traditional cities due to the improvement of communication technologies applied to the services they provide on daily operating processes. In the cities' process of comprehensive transformation, the citizens and the content aimed at them should appear in order of priority. This

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research focuses its attention on the analysis of digital apps by pioneering Spanish smart cities as well as innovations that enhance citizens participation and their integration into the new digital ecosystem in Spain.

Keywords: Citizenship, communication 2.0, technology, apps, participation.

Laburpena

Hiri adimendunen fenomenoa hiri tradizionalen garapen logikoa eta naturala da, komunikazioaren teknologien hobekuntzak aplikatzen baitira egunero ematen diren zerbitzuetan. Herritarrek eta haiei zuzendutako edukiek izan behar lukete lehentasuna, baina, dirudienez, ez dira agertzen azterketa eta ikerketa gehienetan. Lan honek hiri adimendunen arloan aitzindari izan diren Espainiako zenbait hiriren aplikazio digitalak ditu aztergai, bai eta herritarren parte-hartzea eta jendea ekosistema digital berrian integratzea hobetzen duten berrikuntzak ere.

Gako-hitzak: Hiritartasuna, 2.0 komunikazioa, teknologia, appak, parte-hartzea.

Resumen

El fenómeno de las ciudades inteligentes representa el desarrollo lógico y natural de las ciudades tradicionales debido a la mejora de las tecnologías de la comunicación aplicadas a los servicios que prestan diariamente. Los ciudadanos y los contenidos que van dirigidos a ellos deberían ser prioritarios, sin embargo parecen estar ausentes en la gran mayoría de estudios e investigaciones. Este trabajo se centra en el análisis de aplicaciones digitales de ciudades españolas pioneras en el área de las *smart cities* y de las innovaciones que mejoran la participación de los ciudadanos y su integración en el nuevo ecosistema digital.

Palabras clave: Ciudadanía, comunicación 2.0, tecnología, apps, participación.

0. Introduction

In the scenario of contemporary strategic communication, the experience of the new patterns shows special distinction opportunities in the cities and with the social stakeholders, hence the citizens. The technology advances that have occurred over the last quarter of a century, mainly the development of the Internet, have contributed to citizens being able to access an infinite and varied amount of digital content, developed not only through private initiatives, but public ones too. The digital society proposes a model in which communication converges through multiple screens that provide feedback opportunities modifying relations between individuals (Murciano, 2006: 371-398).

With Information and Communications Technologies, a communication system has emerged where users who participate can take the place of emitters by means of creating content and, especially, through participation. This participation and the inclusion process of the Internet in the homes of twenty-first-century citizens and the use of other mobile digital resources have provoked an authentic social revolution. The last factor is the growth of digital media and the expansion of the digital environment (Aguado & Martínez, 2006: 319-343). Digital flows of content and data permeate urban spaces providing innovate solutions for their sustainable and balance development as well as unleashing new social dynamics and place's narratives (Koeck & Warnaby, 2015).

Social networks, digital platforms, mobile devices, tablets, instant messaging and digital newspapers have created a whole new ecosystem of informative, political and citizen relations, according to Manuel Castells (2008: 13-14). One of the consequences of digitalization, whether it be texts, audio, video or images, either through the transformation of analogue content in a combination of binary digits or through the digital capture of information, means that content can be seen and consumed on different digital devices, leading to a technology and multi-platform convergence (Sánchez Martínez & Ibar Alonso, 2015: 87).

Additionally, the emergence of portable devices such as tablets and smart phones has given rise to a universe of apps that help users to access a wide array of content on a daily basis, in fields such as leisure, culture, tourism, health, education or e-commerce. Obviously, not all the apps developed are useful or interesting and at times they are no more than an adapted and extended version of the content included in traditional corporate websites of companies and institutions, including city councils, the traditional approach to designing a place brand pressures the need to formulate a brand purpose, positioning and brand values inspired by place identity and to identify an aspirational vision for the place (Govers, 2015).

All of these developments are fundamental when it comes to intelligent city management and they must be given a preferential position in company and public administration action plans. The companies and municipalities involved in city creation and tailoring processes are implementing "infrastructures and devices aimed at a large action framework with a far-reaching and very varied influence" (Bonete, 2015: 17), which range from energy saving, public spending, mobility, traffic and pollution reduction, and greater agility in dealing with the public administrations.

The management of urban infrastructures, eco-efficiency, safety and mobility, heritage or health, are some of the main areas where radical innovations have been implemented on account of ICT and open-data (Hajer & Dassen, 214).

As soon as citizens start accessing the network, the content they download, view and browse begins weaving a digital fabric that allows the needs, uses and likes of these users to be known. Within the changes and advances occurring, cities have become a real-time system that generates huge amounts of data; its intelligent use along with the New Information and Communications Technologies may enable the full potential of smart cities, not just in terms of efficiency and environmental sustainability, but also spurring innovation in all areas of daily life, with the creation of apps that enable their dissemination, accessibility, new business models and which, of course, would help both cities and citizens to move forward.

The majority of these initiatives are founded on the development of apps that analyze and generate new data useful for citizens, which is the result of the analysis of the very in-vogue *Big Data* or "massive volumes of both structured and unstructured information, which is dynamic by nature, and compiled over a specific period of time, requiring computational methods to extract knowledge from it" (Verbeke, Berendt, D'Haenens & Opgenhaffen, 2014: 02). It is defined by three key elements: its size, the moment it was produced and the way it was collected.

1. Goals and objectives

If new technologies and digital devices have the structure to support the innovation necessary to reach out to citizens, then we need to know the extent to which companies and public administration bodies are not just creating apps that encourage citizen participation, but that promote accessibility, knowledge integration and, of course, dissemination of the advances and improvements made in the cities.

This article concentrates on the experience of medium-size cities such as A Coruña, Valencia, Burgos and Valladolid both in the region of Castilla y León, whose extraordinary cultural heritage currently lacks public funding and seeks innovative forms of fund-raising and promotion (Sacco, 2006). Consequently, one of the main objectives of this research is as well to retrace the many facets that characterize city council engagement with citizens in several fields today by analysing this phenomenon by means of an explorative approach in Spain.

Through the signing of *'Manifiesto por las Ciudades Inteligentes. Innovación para el progreso*', (Smart Cities Manifest. Innovation for Progress) in June 2011, an agreement was made to create an open network to foster economic, social and business progress in cities using innovation and knowledge. Through the use of ICT, the *Red Española de Ciudades Inteligentes* (Spanish Network of Smart Cities - RECI) was formed, with a commitment to developing a sustainable management model and improving the citizens' quality of life. Since then, cities and councils have been joining the manifest, and today it includes a total of 65 cities (RECI, 2015). As a result of this, the following goals have been set out:

a) Identifying which of the considered city councils have decided to offer content on apps for mobile devices owned by its citizens.

b) Evaluating the source of these projects, their production and dissemination, as well the quality of the service provided to the user based on effectiveness and usefulness.

Further, the purpose of this study is to understand and distinguish the fact that smart-city strategies are now common practice in most city councils. This article analyses some successful cases in Spain and aims to examine the most relevant elements related to apps in city councils. Moreover, the aim of this article is to understand the relationship between citizens and the local administrations.

In addition, this article discusses in detail the main theoretical principles of the smart city phenomenon. City councils, whose multiple cases have been evaluated in several cities and regions of Spain, will discuss these issues in detail through the lens of their specific applications.

2. Methodology

In order to achieve the previous goals, comparative research methodology was used that examines the main documentary sources and best practices in the field of the smart cities in Spain. The methodology includes, apart from direct observations and use, the analysis of corporate documents, printed resources and communication materials. The research also includes a review of scientific literature on the topic.

Most Smart City's definitions tried to identify key items such as smart mobility, smart environment, smart living, smart governance, smart economy, smart people, based in measurable indicators. Caragliu said that a city can be called "smart" when investments in human and social capital and traditional and modern infrastructure fuel sustainable economic growth and a high quality of life, with wise management of natural resources, through participatory government (Caragliu et al, 2009) so cities ought to face challenges based not only in infrastructures and sustainable developments but in effective and participative innovation process creating applications that meet the demands of their citizens as well as visitors. Therefore some of the most demanded items in citizenship also are: Culture and Sports, Health and Telecare, Tourism and Leisure, Education, Intelligent transport systems and E-commerce.

Concerning the field of *Culture and Sports*, it is needed to say that culture reveals itself as an intangible and relational asset, capable of stimulating a specific innovation and value generation process inside and outside an organization (Schiuma, 2011).

The rise of cultural communication can be explained in the light of different contemporary trends such as the evolution of city council communication from a marketing concept into a corporate concept, by promoting city halls beyond their services (Argenti, 2009; Cornelissen, 2011; Goodman & Hirsch, 2010). Another factor is the existence of growing goodwill by citizens and institutions towards the role of private companies engaged in the artistic cultural sector (Bondardo, 2000).

Finally, an emerging attitude towards cultural practices cannot be forgotten, which includes quality activities such as visiting museums, exhibits, theatre, concerts and historical monuments. In addition, it includes the extension of both online and offline media coverage dedicated to arts and culture, even projecting them in a global dimension and contributing to the spectacularization of urban heritage (Herranz de la Casa, Manfredi & Cabezuelo, 2015: 219).

The aforementioned topics form part of the research lines followed by the project under which this article falls. The above mentioned RECI was approached to select the cities whose apps would be analyzed. RECI is organized around working groups. In this case, the groups referred to for our analysis were:

- Group 1 focused on subjects related to social innovation including culture and sports, health and telecare, tourism and leisure, and education. The city leading this working group is A Coruña, and for that reason it was the first city chosen to review the content that had been developed for this purpose.

- Group 2 focused on energy, smart space buildings, efficiency, renewable energy. The city leading the group is Murcia.

- Group 3 is about environment, infrastructures, sustainable buildings, public green areas management. There are two cities leading the group, Vitoria and Rivas-VaciaMadrid.

- Group 4 developed subjects about urban mobility. In this case we were interested in lines of work referring to intelligent transport systems, so the cities that led this working group, Burgos and Valladolid, were incorporated into the analysis.

- Group 5 focused on subjects about *Government, Economy and Business*. This group was interested in the line of work focused on E-commerce and NFC payment platforms. In this case, the city leading the group is Valencia.

Thus, A Coruña, Burgos, Vitoria and Valencia are the cities that the analysis focuses on. However there are two other cities in Spain innovators in Smart City's developments which are Malaga and Gijón for that reason we have included them in the analysis even though they are not include in RECI's groups. As it is the city councils themselves who are heading these RECI working groups, we accessed their websites, as well as Android *(Google Play)* app stores and Apple *(App Store)* and did a search by council developer. As a result, we reached the apps that have been analyzed.

Although some of the city councils that were part of the study had developed other apps, we exclusively chose those with content that could be analyzed, as proposed at the beginning of the study; those which did not correspond with the

specifications in the working groups were discarded. Lastly, the topics to be analyzed in each of these apps were defined:

- City of origin: to locate the destination of each of the apps, although in this case all the apps include the name of the city of origin in their title.

- Type of content: to determine whether their topic is related to culture and sports, health and telecare, tourism and leisure, education, intelligent transport systems, or e-commerce and NFC payment platforms.

- Developer: to offer information on the organization that has developed the app.

- Type of service: an explanation of the content of the app.

- App version: where the developer's interest in updating the app and including improvements can be verified.

- Number of downloads: this enables us to determine public interest in the content and dissemination activities carried out by the developer to promote the product (information only available on *Google Play*).

- User evaluation: although not all the users that download apps express their opinion about them, the comments they voice in the network help other people who may be interested in the app topic.

- Other apps by the developer: to get to know the activity of the analyzed city councils in the digital environment.

In addition to these variables, the design of each of the apps analyzed was studied to determine their effectiveness and accessibility levels.

3. The New Phenomenon of the Smart Cities

Technology-based infrastructures are contributing to cities becoming more effective in terms of optimizing their citizens' needs, in addition to contributing to their socio-economic development. Therefore, new economy also finds its place in the cities through smart cities with innovative solutions, which in turn bring about a better quality of life for their citizens.

In the context of competition and innovation relating to smart cities, advances aimed specifically at citizens on encouraging their integration into the smart cities digital ecosystem are necessary, in order to enable them to take advantage of new ICT within smart cities. In addition, it is essential to find added value through participation and innovation, as seems to be the key objective of the *EU Framework*

Programme for Research and Innovation, called *Horizon 2020* (MECD and CDTI: 2014) and this is possible in a changing context fostered by smart cities and its three driving forces *(M2M, IoT and Big Data),* which provide a unique and unbeatable opportunity to encourage access, dissemination and promotion of tourism, cultural heritage, education, business and health using electronic and digital media.

However, it seems that it is not so easy to produce digital action strategies and models in this respect and within the smart city context; firstly, because of all the areas it encompasses; and secondly, because of the management of intangibles it represents in some cases, for instance, heritage, education or digital culture. Yet in using these new boosts and improvements which produce innovation and wealth to the extent new technologies allow, we need to be able to contribute to building cities where their identity, heritage and goods and services can be conveyed, managed and enjoyed both by the citizens living in them and their visitors.

4. Institutional Strategies and Smart Cities

The growth in new Information and Communication Technology (ICT) has brought citizens and the public administrations closer, approach clearly made possible thanks to the wide use of mobile digital devices in society and the use of social networks. In this scenario, new forums for debate have arisen that foster citizen participation, getting individuals involved in their town's decision making processes. These processes do not just improve internal procedures, but they also create a more transparent, approachable and accessible administration body, which is one of the challenges of smart cities where instant access to information, connectivity and interconnection must come first.

The reputations of countries and cities behave rather like the brand images of their institutions, companies and products, and they are equally critical to the progress, prosperity, and good management of those places, but branding actually does have some relevance to countries and the ways they present themselves to the rest of the world (Anholt, 2011: 1-2)

Branding creates a unifying thought for a city with internal and external audiences alike, driven by the long term vision and values of a city. So, the interest in smart cities lays in fact not only their own image but in their ability to attract people able to create an environment that is attractive to emerging generations as well as investors, visitors, citizens and other members.

The key to success for a smart city is its citizens. At present, policies co-exist for everything from energy saving improvement systems to information given to citizens to use as sensors for public transport. Furthermore, local authorities promote citizen participation through apps which have been developed through digital management, and more recently the creation of online spaces and social networks which allow both fluid communication and feedback.

As established in the Aarhus Convention (BOE, Official Bulletin of the Government of Spain, 2005), in society citizens must have the right to take part in public participation processes in areas such as planning and program development, projects evaluation or development of legislation as well as the right to accessible information. Therefore, in the context of Smart Cities, where added difficulties exist due to

their own technological idiosyncrasy, not all citizens are able to access this content. This is due to the lack of digital literacy because of age or social and cultural level factors or failings linked to lack of purchase power. "In general, older citizens have more problems coping with new technology. In this way, and given that ageing is a constant in current society, the problem that has developed for smart cities is that a smart city will only be as efficient and broad as the population spectrum able to interpret and use its technological instruments" (Smart Cities White Paper, 2012: 71).

In this sense, development and action policies are necessary to promote access and understanding of everything connected to smart cities, for both public bodies and private initiatives. It would be useless to develop tools for citizens who have difficulty understanding and using digital language and apps. One of the groups overlooked by new technologies is the elder community. The ageing of the population is one of the most relevant phenomena in western societies nowadays. The growth of the population group of people over 55 is accelerating. It is estimated that by the year 2050, 32% of the Spanish population will consist of older people, which in the near future will turn Spain into one of the countries with a highest percentage of elderly population. This is due to an increased life expectancy as a consequence of advances in medicine, and further improvements in nutrition and education (González, Fanjul & Cabezuelo, 2015). All of this is aided by decreased childbirth rates, fundamentally marked by an economic crisis influencing the citizens' decision to have children (Abad, 2014: 173-180).

The city councils and the technological industry must include a wide offer of products and services adapted to the needs of the elderly that allow for easy adaptation, use and application. Priority attention is necessary for the elderly so that they can gain autonomy and be able to look for information (search, choose, elaborate and share) by themselves in the new digital society. This involves acceptance of cultural, political, ideological and economic implications of this new era so closely linked to technology.

The recent increase and development of new technologies have not allowed continuous contact with some groups such as the elderly, the unemployed or poor people. Some city councils have developed several initiatives for these social groups. Nevertheless, a series of technological barriers exist when these are used by certain people. Moreover, these groups feel unfamiliar with technology and are not comfortable or prepared to use it, as they have not received proper training. Quite often a feeling of distrust appears. On other occasions the services offered by new technologies are not focused on or applicable to specific uses for some groups or people.

5. Analysis, results and discussion

Different Spanish cities and territories have made a big touristic, civic and communicative effort to implement social responsibility actions linked to the cultural world. Attention has also been paid to the tourist and cultural requirements of their own citizens and other visitors, as has been demonstrated by various recent studies (Herranz de la Casa, Manfredi & Cabezuelo, 2015: 217-229). The study of these four initiatives is found in this context of innovation and new initiatives. The analysis has been carried out on few apps which meet the requirements specified in the methodology and all of them develop by the City Council:

- Burgos: *Muévete es Burgos*, *Incidencias Burgos*, *Muévete por el empleo*.
- A Coruña: *Eventos Smart Coruña*, *A Coruña Aberta*, *Rutas A Coruña*.
- Valencia: *App Valencia*, *Museos y Monumentos y más*.
- Málaga: *Audio guía oficial*, *Parque empresariales*, *Málaga funciona*, *Zonas musculación*, *Playas Málaga*.
- Gijón: *Emulsa incidencias*, *iGijón*, *CiudaGijón*, *Gijón Bus*.
- Murcia: *Tu Murcia*, *TMurciaBus*, *Turismo Murcia*, *Murcia in situ*, *Informa Joven*.
- Vitoria: *Buzón ciudadano*.
- Rivas VaciaMadrid: *Bici n Rivas*

Table 1. Apps' Burgos City Council.

	Muévete es Burgos	**Incidencias Burgos**	**Muévete por el empleo**
City of origin	Burgos	Burgos	Burgos
Content type	Transport	Incidents, events and improvements	Employment
Developer	Burgos City Council	Burgos Provincial Council	Burgos City Council
App Version	1.1.0 (Android) 1.2.0 (iOS)	1.0.0 (Android)	1.1.0 (Android)
Number of Downloads	More than 100	More tan 10	More than 100
Target Audience	PEGi 3 (Android) More than 4 (iOS)	PEGi 3 (Android)	No classification (Android)
User Rating	3,4 out of 5 (based on 10 users) (Android)	4.0 out of 5 (based on 1 user)	4.0 out of 5 (based on 2 users)
Last Update	21/07/2015	29/09/2016	8/11/2013

Source: Compiled by authors.

Table 2. Apps' A Coruña City Council.

	Eventos Smart Coruña	A Coruña Aberta	Rutas A Coruña
City of origin	A Coruña	A Coruña	A Coruña
Content type	Culture and Leisure	Citizen participation	Tourism and leisure
Developer	A Coruña City Council	A Coruña City Council	A Coruña City Council
App Version	1.0.2 (Android) 1.0 (iOS)	01.02 (Android)	2.0.2 (Android)
Number of Downloads	More than 5,000	More than 500	More than 1.000
Target Audience	No classification (Android) More than 4 (iOS)	PEGi 3 (Android)	PEGi 3 (Android)
User Rating	4,1 out of 5 (based on 101 users) (Android) 5 out of 5 (based on 10 users) (iOS)	4,2 out of 5 (based on 2 users)	4 out of 5 (based on 35 users)
Last update	24/05/2016	18/02/2016	26/01/2016

Source: Compiled by authors.

Table 3. Apps' Valencia, Vitoria and Rivas City Council.

	Museos y Monumentos y más	App Valencia	Buzón ciudadano	Bici n Rivas
City of origin	Valencia	Valencia	Vitoria	Rivas
Content type	Culture and Tourism	Citizenship and mobility	Citizen participation	Mobility
Developer	Valencia City Council	Valencia City Council	Vitoria City Council	Rivas VaciaMadrid City Council
App Version	1.3 (Android)	1.0.72 (Android) 1.2.6 (iOS)	1.05 (Android)	1.1 (Android)
Number of Downloads	More than 1.000	More than 10.000	More than 1.000	More than 500
Target Audience	PEGI 3 (Android)	PEGI 3 (Android) More than 4 (iOS)	PEGI 3 (Android)	No classification (Android)
User Rating	4 out of 5 (based on 23 users)	3,9 out of 5 (based on 294 users)	3,7 out of 5 (based on 17 users)	3,4 out of 5 (based on 9 users)
Last update	04/04/2017	07/11/2013	29/03/2017	04/11/2012

Source: Compiled by authors.

Table 4. Apps' Málaga City Council.

	Audio guía oficial	Parque empresariales	Málaga funciona	Zonas musculación	Playas Málaga
City of origin	Málaga	Málaga	Málaga	Málaga	Málaga
Content type	Tourism and leisure	Economy and mobility	Citizen participation	Outdoor's Sport	Tourism
Developer	Málaga City Council	Málaga City Council	Málaga City Council	Málaga City Council	Málaga City Council
App Version	1.4 (Android)	1.2(Android) 1.2.6 (iOS)	1.05 (Android)	1.0.1 (Android) 1.1 (iOS)	1.0 (Android)
Number of Downloads	More than 5.000	More than 500	More than 1.000	More than 100	More than 1.000
Target Audience	No classification (Android)	No classification (Android)	PEGI 3 (Android)	No classification (Android)	No classification (Android)
User Rating	4,2 out of 5 (based on 32 users)	3,5 out of 5 (based on 19 users)	3,7 out of 5 (based on 17 users)	5 out of 5 (based on 7 users)	3,5 out of 5 (based on 32 users)
Last Update	26/02/2013	28/07/2014	23/04/2015	12/01/2016	14/08/2013

Source: Compiled by authors.

Table 5. Apps' Gijón City Council.

	Emulsa incidencias	iGijón	CiudaGijón	Gijón en Bus
City of origin	Gijón	Gijón	Gijón	Gijón
Content type	Enviromental incidents	Citizen participation and productivity	Incidents and improvements	Mobility
Developer	Gijón City Council	Gijón City Council	Gijón City Council	Gijón City Council
App Version	2.0.0 (Android) 2.0.0 (iOS)	2.3.0 (Android)	2.1.1 (Android) 1.0 (iOS)	4.0.3 (Android)
Number of Downloads	More than 500	More than 1.000	More than 500	More than 10.000
Target Audience	PEGI 3 (Android)	PEGI 3 (Android)	PEGI 3 (Android)	PEGI 3 (Android)
User Rating	4,6 out of 5 (based on 24 users)	4 out of 5 (based on 7 users)	3,9 out of 5 (based on 17 users)	4,4 out of 5 (based on 477 users)
Last Update	14/03/2017	10/02/2016	08/03/2016	26/01/2016

Source: Compiled by authors.

Table 6. Apps' Murcia City Council.

	Tu Murcia	Turismo Murcia	Murcia in situ	Informa Joven	TMurciaBus
City of origin	Murcia	Murcia	Murcia	Murcia	Murcia
Content type	Citizen participation	Tourism and leisure	Incidents and improvements	Sport and leiusure	Mobility
Developer	Murcia City Council	Murcia City Council	Murcia City Council	Murcia City Council	Murcia City Council
App Version	1.0.10 (Android) 1.0.11 (iOS)	4.2 (Android) 1.2.6 (iOS)	1.3 (Android) 1.2 (iOS)	1.1.4 (Android)	1.4 (Android)
Number of Downloads	More than 1.000	More than 1.000	More than 100	More than 500	More than 10.000
Target Audience	PEGI 3 (Android)	PEGI 3 (Android) More than 4 (iOS)	PEGI 3 (Android)	Parental Control require (Android)	PEGI 3 (Android)
User Rating	2,4 out of 5 (based on 28 users)	2,8 out of 5 (based on 20 users)	3 out of 5 (based on 7 users)	4,1 out of 5 (based on 16 users)	3,9 out of 5 (based on 131 users)
Last Update	14/12/2016	28/09/2016	13/06/2016	24/06/2015	07/03/2017

Source: Compiled by authors.

The results obtained will be analyzed by city. Therefore, we begin with the case of Burgos. Burgos lead in work group 4 of the Network (RECI), which develops projects on urban mobility particularly for electric mobility and intelligent transport systems. Despite leading work group 4 with Burgos, no app has been found. Burgos City Hall (www.aytoburgos.es) does not provide information on its website on apps which have been developed for mobility or intelligent transport systems, although we have been able to find one from searches on the app store sites. The web provides information on three apps winning the APPS competition for mobile devices, organized in 2014, where we found *MovilBur*, with similar content to the app developed by the City Council: *Muévete es Burgos*.

Muévete es Burgos is an easy to use app aimed at over 3 year olds with "information on parking, taxi ranks, traffic reports and gas stations" (App Store, 2015) developed by the Burgos City Hall. Other apps developed by the Burgos City Hall but not all included in the analysis are *Navidad Burgos, Servicios sociales ayuntamiento, Semana Santa Burgos, Muévete por el empleo, Festival enclave de calle, Festival folclore Burgos* and *Fiestas Sampedros*, developed for both Android and iOS.

A Coruña is the city heading the work group dedicated to social innovation, encompassing themes such as accessibility, culture and sports, citizen participation, health and telecare, safety and emergency public service management, tourism and leisure, education and open government, and open data. The Concello da Coruña/ La Coruña City Hall (www.coruna.gal) website has a smart city section which offers information on the projects developed in the city, especially in citizen interaction

areas, leisure and tourism, traffic and urban transport, education, and guided visits with augmented reality. The majority of projects developed are related to tourism and leisure. In this city, two apps have been analyzed: *Eventos Smart Coruña* and *A Coruña Aberta*.

Eventos Smart Coruña offers "information on cultural and sporting events in the public and private spheres" (Google Play, 2015). There is no age category and it has been downloaded by more than 10.000 users who have given it very positive ratings (4 over 5 in the case of Android users and 5 over 5 in Apple users). This app has a tutorial to help users, offering plans by category and date which are easy to use. It is useful for both residents and visitors. In addition, the city hall has also developed the Android app *A Coruña Aberta*. Developed exclusively for the Android operating system, the case of *A Coruña Aberta* is not aimed at any particular age group and has been downloaded by more than 1000 users, offering GPS street information and guided tours. It has 10 preset routes and the possibility to include personal routes. It allows user registration and uses augmented reality, information on points of interest, a map and an audio guide. It is an app with a social dimension, allowing users to comment, rate, share and select useful alerts. It has a rating of 4.2 over 5, based on the opinion of 4 people.

The Valencia City Hall (www.valencia.es) has developed App Valencia recommended for over 3 year olds. Available for both Android and iOS, it serves as an installation portal for all apps developed by the Valencia City Hall. It is the most downloaded of the apps analyzed (more than 10,000 users) and "includes transport information, proximity information, and traffic, access to the electronic headquarters of the city hall for procedures, agenda, and Augmented Reality and City Hall advice" (Google Play, 2015). The Valencia City Hall, leader of the work group on the themes of government, economics and business, have also developed the *Museos, monumentos y más cultura* app for Android and the *Valencia Direct To You* app exclusively for iOS, orientated for leisure and tourism. For this analysis, App Valencia was selected because although it is not only centered on e-commerce or NFC payment platforms, it allows the payment of fines and taxes.

In the same way, in keeping with a trend based on the exclusion of culture from development programs, only tempered after the 1990s (Unesco Etxea, 2010), which concentrates on the immediate economic and political value new Smart Cities can offer, the investigations and entities dedicated to the study and use of the Smart City concept forget the enormous cultural richness of Spain, its unique variety and authenticity and, for the same reason, the benefits and advantages emanating from the empowerment of its patrimonial value through the new and original methods proposed by technology to ultimately offer a different tourism and cultural commitment which continues accentuating the distinctive character and identity of Spanish cities.

Most apps are outdated, particularly in the case of Málaga something that draws attention if we consider that it is one of the key cities in the smart city's development in Spain and despite the fact that Málaga has a high level in tourism the number of downloads of *Audioguía oficial de Málaga* are low not only in Spanish language but in English or German too because they are less than 10.000 in the best case.

In general it seems that institutional apps are not as useful as they ought to be. If we take into consideration the population of these cities the number of downloads are not significant.

According to the redinnpulso.es website, the City Council of Gijón has over the last years a concertation strategy between public and private institutions in the territory to give shape to the inclusion of applications in the ecosystem of the Smart Cities. Last year (2016) Gijón was awarded with the CNIS prize to the best Smart City project. Gijon city council has the more updated apps and with a wide range of issues.

RECI's projects were initially oriented towards energy efficiency and clean transport so some of their cities were involved in smart city's global scope in addition of companies, university and research institutes' awareness and interest. Six RECI members as well as Málaga which not belongs to RECI are partners in seven of the Horizon 2020 Smart City projects' funding programme named CIVITAS (COIT, 2016).

6. Final conclusions

In summary, the multiplication of supports, platforms and digital content has altered the status of the management of municipalities' communication with their citizens and visitors. There have been previous success stories in local policies that allowed different groups to remain active and integrated in society during their lifetime. Now it is necessary to reinforce those programmes with different transformations through continuous education programmes for the elderly. It is essential to create required mechanisms so that information is permanent and continuous in the current knowledge and information society, in order to reach the greatest number of people.

City council communication creates brand and reputation for the territory, for the cities and for the organization as institution. However, the highlight in the evolution of this new communication strategy is the consolidation of promoting local corporation responsibility actions in many areas: sport, arts, culture, research, leisure and solidarity. Good corporate citizenship has become a staple for city councils to be accepted, and this idea seems to regulate the behaviour of many institutions.

This work, as a first contribution, aims at tabling the discussion and highlighting the growing importance of this new environment in the execution of policy and municipal communication and place branding. As a general conclusion, it can be stated that the main interest appears to be focused on the development of apps for tourism in order to assist foreign visitors in the city. However, there appears to be a political incongruence in the large touristic cities in our country.

As a specific conclusion, some concrete aspects must be mentioned. In the case of the region of Castilla y León, the city of Burgos is a good example of coherence, but there is also a city like Gijón that has a good presence even in projects without Network obligations. Another specific conclusion, after our analysis, is linked to health and well-being apps. There seems to be little interest in the development of apps on health and telecare, education and e-commerce and NFC payment platforms, which are all very important contents for the wellness, progress and economic development of citizens.

Lastly, it is necessary to state that after the analysis carried out, we can observe how, despite technological advances, the development of smart cities contents is solid, but still emerging. After analysing these Spanish cases, the question is whether cultural communication could be considered a city council strategy and at what point it changes from a pure marketing approach to a real relational one focused on citizens.

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