Platform of Citizen Interaction: the contribution to the governability of New TIC´s and Citizen Relational Management

Juan Doberti[1] , María Laura Pepe[1], Mónica Larrosa[1], Carla Crocco[1], Gabriela Gabay[1], Guillermo Hindi[1], Carlos Molina[1], Gonzalo Paradela[1],

[1] Engineering and Technological Researches Department; National University of La Matanza, Florencio Varela 1903, B1754JEC, San Justo, Argentina
{jdoberti, mpepe, mlarrosa, ccrocco,
ggabay, ghindi, cmolina, cparadela}@unlam.edu.ar

Abstract. Understanding "governability" as an interaction process among government and society, the New Technologies of Information and Communications (NTICs) can contribute as a strategy of improvement and conversion in the type of communication between both actors. This article introduces concepts referred to Customer Relationship Management applications turned into Citizen Relationship Management tools. The plus of a modeling of the multiplatforms functionalities that this solution offers and a protocol of implementation and system migration is a step forward in the achievement of obtaining an electronic government with civil democratic interaction and transparency in the management. The idea of a Platform of Citizen Interaction that auspice as a repository of the communication between public and civil entities allows having a unique and centralized database capable of being segmented of different ways to attend to a great diversity of subject matters.

Keywords: E-Government, Citizen Relationship Management (CiRM), Platform of Citizen Interaction, Customer Relationship Management (CRM), New TICs (NTICs).

1 Introduction

New TICs are currently interceding as indispensable means between government and citizens, generating exclusive communication channels between them. In our so informed society, there is an increasingly need to be able to traverse the veil that conceals the actions of the public sphere and the access to the information that state organizations possess. The governability -understood as the interaction between the government and the society-, is demonstrated in the success of this process. "Governments worldwide are faced with the challenge of transformation and the need to reinvent government systems in order to deliver efficient and cost effective services, information and knowledge through information and communication technologies. Development of information and communication technologies catalyzed

and led up to E-government". [1] The current society demands major transparency on behalf of the governments, more decentralization, and more independence to express their issues, desires, prerogatives and priorities. The civil participation is one of the most important components of the democratic governments, especially municipal ones, with functions directly related to the territorial aspects and to the satisfaction of the needs of their local community. The citizenship and the social organized movements have increased their participation in the process of governmental decisions making, and in many cases it is possible to glimpse an effort to reach public decisions in cooperation with the population, and the role of the E-government has been highly significant to such an end.

The use of the New TICs (NTICs) has helped in the last years to improve governability and participation. It can be proved for example, in the use of the social networks for political mobilizations and campaigns of obligatory alphabetization. The increasing accessibility to these technologies, which include -in addition to computers-, the Internet, mobile communication and other mass media, has allowed, among other things, a major access to knowledge and the expansion of cultural activity; but additionally it can be potentially a powerful tool for the development of a new critical conscience and of civil participation.

The great summit that is having nowadays the E-government has been a cl ear consequence of the exponential development of these tools. "Electronic government refers to government's use of technology, particularly web-based Internet applications to enhance the access to and delivery of government information and service to citizens, business partners, employees, other agencies, and government entities." [2]

Its influence in governability is outlined because of its application in justice, security, human rights and education, as well as for the best accessibility to information of public interest and of consumer protection organisms. These tools also contribute in the interaction with the different government organisms on providing information on its actions, and there is an increasing trend to expand its use on the services given to the citizenship, such as obtaining identity documents and death certificates or to facilitate the payment of taxes and obligations.

According to Barak Obama, in his Memorandum "Transparency and Opened government", he indicates that a government opened to the citizenship "will strengthen our democracy and will promote the efficiency and the effectiveness in the government". For this commitment, in the same document he clarifies:
"-The government must be transparent. The transparency promotes the account surrender and provides information to the citizens on what it is doing its government.
-The government must be participative. The public commitment improves the efficiency of the government and improves the quality of its decisions.
-The government must be collaborative. The collaboration involves actively the citizens in the performance of its government." [3]

The integration of the diverse alternatives that offer the new technologies allows improving these processes in a bidirectional way, allowing obtaining and processing

information to the pace of the "modern times", contributing this way with the governability understood as an "overarching concept, as the quality of a social-political entity as a whole, not an static quality; to the contrary, always changing"[4].

One of the fields in which these technologies can tender major contributions is basically to obtain public information from the governmental organisms. This should not be understood merely as the official online publication of accountability information and data that support transparency, only interpreted by professionals. It should be taken into account the rest of the population, with differentiated texts for specific target groups, guaranteeing the satisfaction of the social demands as for the access to the information, the empowerment and the creation of citizenship. Additionally, these tools can contribute so that governments could obtain information from the community and consequently elaborate more effective policies and action strategies, in topics as, for example, security and prevention of crime.

Understanding this increasingly need of incorporating the NTICs into the relation between citizens and the different governmental scales, exist nowadays multiple channels of virtual communication among the diverse actors, motorized in the last years principally for the so called "social networks". And in this society in which we live it is not possible to ignore the importance that is having this trend, which, as never before in the history of the humanity, is going through so many different ages and socioeconomic levels, and even overcoming the limits of distance.

In general terms, it might be said that the subject matter shows the following situation: [5]

Strengths:	**Weaknesses:**
-Is a State policy	-Lack of suitable communications
-It is fitted inside a strategic governmental plan	infrastructure
	-Absence of necessary information
-The government has the necessary aptitude to have success in the implementation of the plan	systems
	-Lack of technological resources
	-Dependence of the financial
-There have been successful experiences in similar actions	availability of the State
	-Lack of qualified Human Resources
Opportunities:	**Threats:**
-Acceptance of the society of solutions to their demands of services	-Lack of commitment of the governments
	-Absence of budget for financing
-Increase of penetration of the TICs	-Inability to have the physical necessary spaces
-Availability of new schemes and solutions of telecommunications	-Politicization or appropriation of the results or spaces

2   Implementation of a CiRM: preponderant aspects

Any organization, so much of public as private sphere, has as aim to cover the needs of a specific group of people. The difference is that in some cases the purpose is to obtain economic profitability and in others, the final aims are of different nature. The application of technologies such as CRM systems is of usefulness in both cases. "CRM is a philosophy and a business strategy supported by a system and a technology designed to improve human interactions in a business environment." [6] It is already demonstrated the efficiency of these solutions of software in the private sector, but recently it has been verified also that, in the governmental scale, the use of CRM contributes to a more efficient attention of the citizen, enabling the interaction by means of multichannel contacts where the NTICs possess a role of relevancy.

However, the focus should be diametrically opposed, because while in the private sector CRM is a v ery important tool for segmenting customers according to their economic potential, when talking of citizenship the criterion to segment involves identifying the most vulnerable, so that these ones are the beneficiaries of a "preferential treatment" according to their needs. In definitive, while in private management the use of CRM is customer oriented, in the public sector evolves to specific features, acquiring the name of Citizen Relationship Management (CiRM), with objectives such as measure citizens approval (in order to act according to their satisfaction degree) and know their concerns. In general, "government has not yet arrived at a strategic understanding of how to apply CiRM effectively and maximize citizen participation. Therefore an examination of CRM is appropriate and necessary to developing a more complete understanding of the power, potential, and pitfalls of CiRM", [7] basically by means of a plan to focus on people necessities using different types of management methodologies to succeed.

Deeper into the implementation of a CiRM, essentially, this application represents part of the front office from the point of view of the citizen. Subsequently, the process done with this interaction will be handled by the back office, which normally consists of a system called ERP (Enterprise Resource Planning).

In the Figure 1 are represented the features that the use of an application of this nature has, helping not only the citizens so they can accede to the services that the agencies provide (orders, claims, status of their transactions, services payment, etc.), but also, for the own organization, it works as an element of control and transparency, as well as an opportunity to approximate to the citizens, who feedback through their requirements the need for a continuous improvement in service.

It would be important to remark, then, that there is a "need to manage citizen relationships and open new models of citizen participation. However, as with eGovernment in general, CiRM increasingly demands that agencies act across jurisdictional boundaries and find new forms of governance." [8]
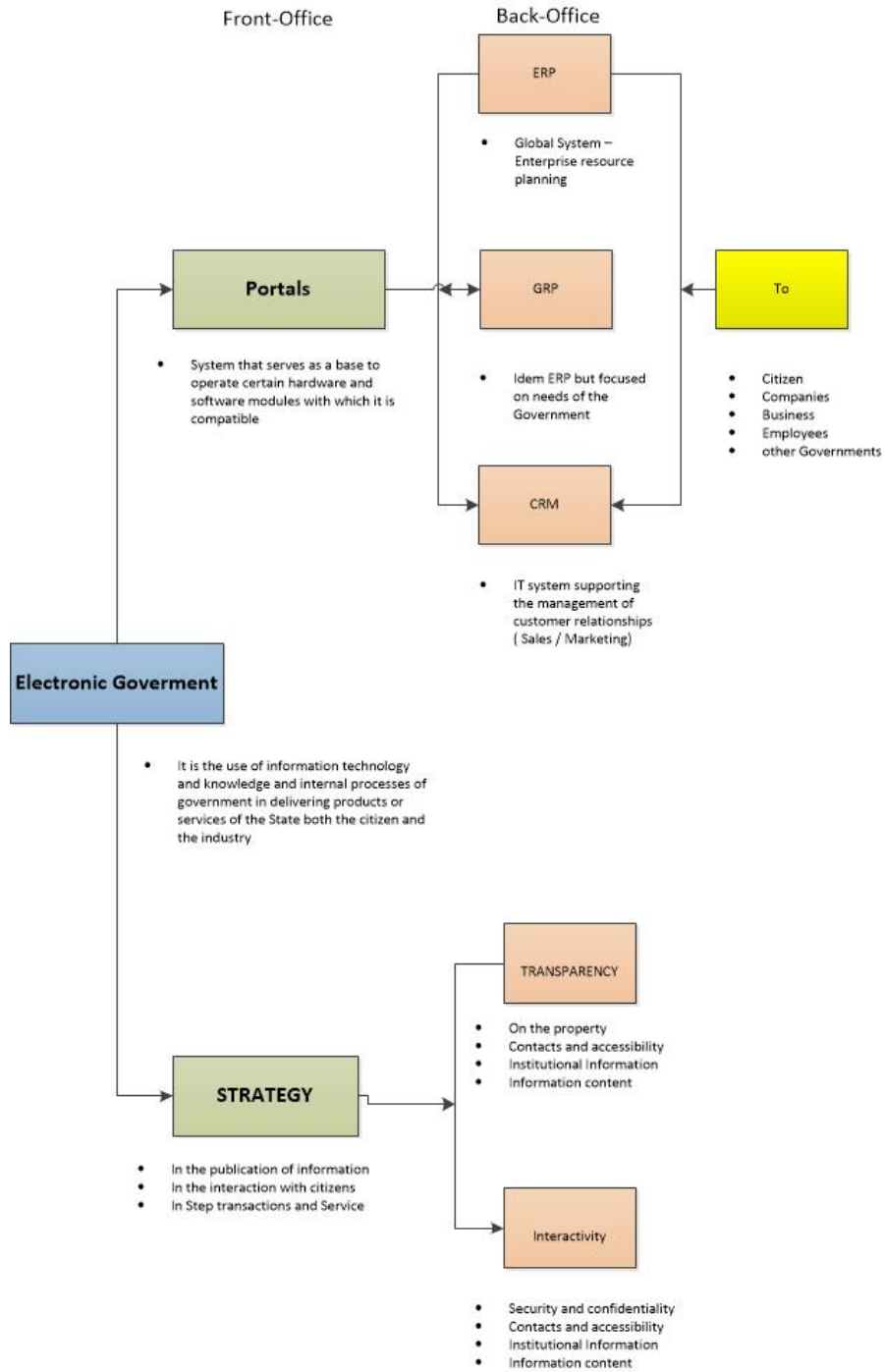
Front-Office

Back-Office

ERP
- Global System – Enterprise resource planning

Portals
- System that serves as a base to operate certain hardware and software modules with which it is compatible

GRP
- Idem ERP but focused on needs of the Government

To
- Citizen
- Companies
- Business
- Employees
- other Governments

CRM
- IT system supporting the management of customer relationships (Sales / Marketing)

Electronic Goverment
- It is the use of information technology and knowledge and internal processes of government in delivering products or services of the State both the citizen and the industry

STRATEGY
- In the publication of information
- In the interaction with citizens
- In Step transactions and Service

TRANSPARENCY
- On the property
- Contacts and accessibility
- Institutional Information
- Information content

Interactivity
- Security and confidentiality
- Contacts and accessibility
- Institutional Information
- Information content

Fig. 1. Functionalities

Nowadays, as it happens in another type of technologies, there is a big offer of free software available or paid systems (that can also be stiff tools or solutions of software made-to-measure). It is important to mention that any deployment option must interact with office automation tools in use by any citizen, in order to do the interaction as smooth as possible. Obviously, to adopt one or another depends on the structural requirements of the area in which the application will be installed. In general, if the number of personnel is relatively small, the best option is to use a packaged CiRM. Anyway, the difficulty with this type of packages of software is that the adjustment of the standard functionalities can be difficult, because for a successful implementation there is needed of understanding a different conception from this type of software. If the quantity of users that they will use this tool is major, it will be better to use, of base, a CRM to the measure of the need. "There is a lot to making CRM decisions and there are a lot of ways to implement CRM programs." [9] This information is important according to the governmental scale in which is going to be applied the CiRM, since exist either very small areas of application or spaces of very significant dimensions. Needless to say that the costs of tools in both cases are very different, which is not a minor detail, and that will be another point to consider.

It is important to understand that the installation of a CiRM will be creating a single repository of relations with citizens that will store all interactions regardless the communication channel that has been used (e-mail, text message, web page or other). It is here where the role of the NTICs acquires an absolutely preponderant character, since they facilitate a massive access of citizens of very diverse characteristics. Besides these considerations, it is necessary to notice that there must be identified exhaustively all the areas affected by the implementation of this software, such as the IT area and the one of attention to the citizen in the first instance, but also all those areas that have active responsibility on the needs and requests of the citizenship or that take charge of processing information and generating policies and strategies of government.

Any CRM system consists of three parts: the operational one (in case of the CiRM they will be those typical functions related to the service to the citizen), the collaborative one (conductive thread between the citizen and the public entity,) and the analytical one (which carries out the capture, storage, extraction, processing, interpretation and generation of reports of information of the citizen, for a further use of the application). "CRM success requires the seamless integration of every aspect of business that touches de customer –including people, process, and technology- revolutionized by the Internet. Each component presents significant challenges, but it is the ability to integrate all three that makes or breaks a C RM system". [10] According to the governmental scale that is implementing this application, the role of the analytical component acquires dimensions of high sensibility and importance, since it is the one that contributes with information of interest from the political point of view for the decisions making.

The implementation of a CiRM solution, in general lines, can be summarized in the following stages:
1. *Analysis*: determination of the needs of the citizen.

2. *Diagnosis*: design in function of the necessities of the citizen and of the entity of government where it will be implemented, and determination of the requirements of technological infrastructure. It is important to set objectives and strategies between technical teams and managers.
3. *Performance*: system implementation, complying with tracking software and project stages. The necessary technology is installed and also the necessary trainings are done. The key indicators of the processes are ongoing to be able to have a feedback of the functioning of the system.

Another aspect to consider is the diffusion of this channel of participation for the citizens supported in the NTICs, it should also be an aspect to bear in mind for the success of the implementation, because it will need a pertinent diffusion strategy. Besides, it will be necessary to take into account the organizational structure of the organism, because furthermore will probably be needed some changes, since doubtless starting this solution of software should lead to a reclassification that will have to be carefully foreseen in order to not affect in a negative way all the involved actors. The most important thing is to recognize that some organizational changes are likely to be generated. Another probable consequence of the implementation of a CiRM platform is related to the level of delegation allowed to the employees responsible for the civil attention. Provided that the requirements of the citizenship will have to be structured by high degree of detail, to achieve an equal follow-up will be necessary a major capacity of response, and consistently, it will be necessary to delegate major authority for the already standardized questions. It will be necessary to pay attention to the existent barriers in order so that an entity of government can adopt a system of these characteristics. Public agents are not always ready to go through the cultural change -and of behavior- that is necessary for a satisfactory functioning of a CiRM. The success or failure depends entirely on the commitment of people and their flexibility to change.

After the implementation and the beginning of the utilization of the system there will probably be needed to be instrumented new functionalities to this tool, so, at the moment of choosing the best alternative, this factor will have to be taken into account. In an implementation of a made-to-measure tool, the updates and new functionalities will have to be executed by IT personnel specialized in the application, whereas a packed software will probably allow automatic updates through the Internet. This is the reason why a balance between maintainability and customization must be achieved.

In synthesis, implementing a CiRM system has to do with seeing some of the benefits related basically with information managing, which can be obtained in first instance and re-used; even the preferences of the citizens can be capitalized by means of the analysis of already done interactions. In addition, the information could be shared between different government entities in order to accelerate some processes. Of course services might be personalized referring to a geographical zone, social level, and other functional aspects and, for example, there might be sent automatic notifications of settlements or other obligations and even indicate to the citizen where they can do certain steps.

3 Platform of Citizen Interaction

Currently, the different levels of government have mostly implemented some websites with some degree of interactivity, where they offer their citizens more than news about the government, guidelines or "useful information". In this way, it is very important to possess a tool software that should allow these interactions, but it is also indispensable to think about modeling all the possibilities that this format offers, as well as a protocol of transfer of management (in person or through web pages but used only as a support tool), to an on-line management with permanent interaction with the citizenship, which often faces with the difficulty of "not being able to locate the institutional persons in charge of the decisions making. The solution of this problem has to do with connecting with the population on a bidirectional way and that provides to the informed person a channel of response that guarantees the return of the information or of the demand to the correct person in charge of area". [11] For this reason, the implementation of a Platform of Citizen Interaction based on the utilization of a CRM tool turned into a CiRM application, with the attaché of a modeling of the multiplatforms functionalities that offers this solution and a protocol of implementation and migration system, is a s tep forward in the achievement of obtaining an electronic government with civil democratic interaction and transparency in the management.

There exist diverse ways of generating this platform sustained by all those road links between the citizens and their authorities: in person, telephonic (call center), text message (msj), WhatsApp (wpp), Facebook, e-mail, Web route, etc. This plurality generates the following advantages to the user and to the government:

- The citizen is not tied to the only way of communicating with a public organism, since in all the channels that they should use, their communication record stays registered.
- This record frees the citizen of the person who attends him, since whoever is the agent who takes again the communication, has access to a record or "conversation" with the citizen (claims, steps, denunciations, etc.).
- The record of every citizen generates knowledge of the person by the public organization, which might use this information to produce profiles that could be used for offering services segmented by the interests of the contributors.
- Generation of real and constant statistics based on the reality of the citizens, in order to take the pertinent initiatives for the solution of detected problems.
- Civil empathy among the possibility of being able "to talk" with their authorities, feeling that their voices are being listened.
- Major democratic quality for the different areas of government, with major participation and clarity in the management, with the consequent political benefit.

- Rational utilization of the NTICs and of the social networks, which makes simpler the life and the work of the citizens.
- Inclusion of citizens in decision-making, with binding or not surveys, about decisions in the district.
- Knowledge by the taxpayers of the authorities, their history, heritage, activities, etc.

All these reasons and many more emanate since succeeding in establishing a protocol and implementing this Platform of Citizen Interaction, generating openness of government to its citizens: "Open Government is not a one-way street from the state to the citizens but a dialectical and multidirectional process that nourishes the actions of the government, citizens, companies and intermediary institutions". [12]
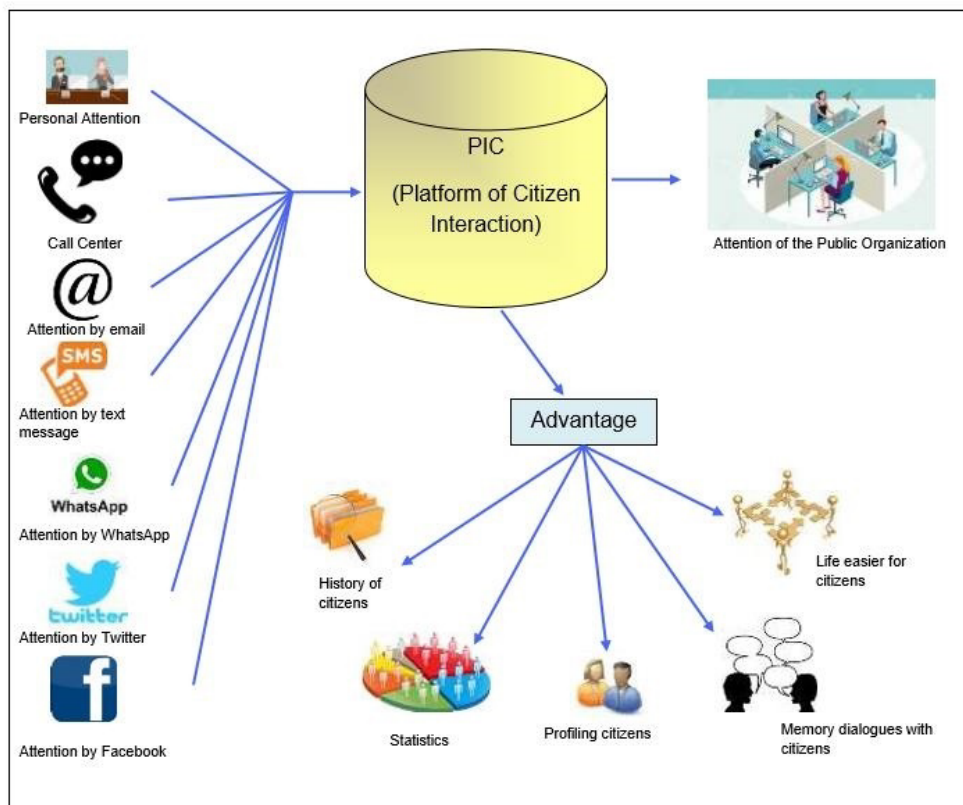

Fig. 2. Platform of Citizen Interaction

4 Conclusions

In current times, "the diffusion to planetary scale of the new technologies of the information and communication and of the IT networks, has started a p rocess of connectivity without precedents in the human history, which has allowed the multiplication of the possibilities of generating and socializing information and knowledge, eliminating progressively the time and space barriers. Probably the most symptomatic phenomenon of these changes is the Internet, network of networks that has had a substantive impact in the economic processes, in the culture and in the generation of new modalities of interaction, communication and exchange of experiences between the different actors, institutions and social movements ". [13] The combination of these tools, used for the civil management together with CRM systems, allows offering a more efficient attention, facilitating the interaction through multichannel contacts. As well as in the private sector is observed that the management is orientated towards the client, over all as an economic agent, in the public sector, this principle applied to the citizenship, might be understood as the necessity to know their interests and to manage agilely the interaction with them, and besides, offering services to the population beyond the channel of participation, dealing and acting on the matters that do not satisfy the population, and being able to measure the degree in which their interests are being interpreted.

These topics have been studied for decades by theorists who have developed various philosophies that explain how citizens, primarily through the vote, expressed their will, concerning the provision of public goods, merit goods and other goods and services provided by the state. Today the NTICs and other IT tools like the CRM have converted themselves in instrument of communication and generation of opportunities in order that the citizens make hear their "voice" to the different governmental scales. And in the same way, as different disciplines like economy are today developing models that explain how these instruments transform the economic relations between private agents, it should be important to go deeper also in understanding how it concerns the public sector and - in specially - its relation with the citizenship, focusing in the resolution of problems of asymmetry of information inside the state.

The challenges that produce the integration of these tools in a Platform of Citizen Interaction turn about the question of how to allow the advance of different segments of the society towards the innovation and adjustment of new technologies -or new applications of already installed technologies-, to improve the processes of government and to reduce the social and economic differences. It is necessary to define public policies that are capable of promoting the use of this technology, contributing to the social integration, to the expansion of the human freedom and to the reduction of the digital gap. The problem is not so much of technical or economic nature, but of political will and of the desire of equality and justice. The governments must develop inclusive policies with social participation in order to carry it out. In synthesis, previously, these policies must already exist then the NTICs can significantly promote the participation and partnership.

References

1. Fang, Z.: Government in Digital Era: Concept, Practice, and Development. International Journal of The Computer, The Internet and Management. Vol. 10, No.2 (2002)
2. Maric, M.: End user oriented e-Government model. In MIPRO 2011 Proceedings of the 34th International Convention. IEEE. http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5967318&isnumber=5967009
3. Obama, B.: Transparency and Open Government: Memorandum for the Heads of Executive Departments and Agencies. https://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment
4. Kooiman, J.: Governing and Governance. SAGE. 2003
5. Province of Misiones Government, Argentinean Republic. Technological Center of Citizen Attention Project. http://exa.unne.edu.ar/depar/areas/informatica/SistemasOperativos/ProyectoVersionFinal.pdf
6. Greenberg, P.: A Commonwealth of Self-Interest. CRM Magazine. 2003
7. Huebner, J.: E-Participation and Citizen Relationship Management in Urban Governance: Tools and Methods. In Citizen E-Participation in Urban Governance: Crowdsourcing and Collaborative Creativity. IGI Global. 2013
8. Schellong, A.: Citizen Relationship Management. European University Studies. Peter Lang. 2008
9. Greenberg, P.: CRM at the Speed of Light, Fourth Edition: Social CRM 2.0 Strategies, Tools, and Techniques for Engaging Your Customers. McGraw Hill. 2010
10. Goldenberg, B: CRM automation. Prentice Hall. 2003
11. Alcántara García, L., Santin Moreno, C.: Platform for civil participation for mobile. Tecnim@p. Sevilla. 2006
12. Golosetti, L.: Open Government: a management model citizen-centered. Initiatory Foundation. Santa Fe. 2016
13. CEPAL, Proyect ITA/04/002. RISALC, Network on l ine of Social Institutions of Latin America and the Carib: The new information and communication technologies and the social institutionalism. Towards a management based on the knowledge. 2005