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Project Presentation

Surfing Towards the Opportunity of Real Migration to Cloud-based public Services (STORM CLOUDS) is a project partially funded by the European Commission within the 7th Framework Program in the context of the Capital Improvement Plan (CIP) project (Grant Agreement No. 621089).

The project has the objective of exploring the shift to a cloud-based paradigm for deploying services that Public Authorities (PAs) currently provide using more traditional Information Technology (IT) deployment models. In this context, the term "services" refers to applications, usually made available through Internet, that citizens and/or public servants use for accomplishing some valuable task.

The project aims to define useful guidelines on how to implement the process of moving application to cloud computing and is based on direct experimentation with pilot projects conducted in, at least, the cities participating to the consortium.

STORM CLOUDS will also deliver a consolidated a portfolio of cloud-based services validated by citizens and Public Authorities in different cities and, at the same time, general and interoperable enough to be transferred and deployed in other European cities not taking part in the project. This portfolio will be mainly created from applications and technologies delivered by other CIP Policy Support Program (CIP-PSP) and Framework Program 7 (FP7) projects, as well as resulting from innovation efforts from Small and Medium Enterprises (SMEs).

The project is composed by the following consortium:

Member	Role/Responsibilities	Short Name	Country
Ariadna Servicios Informáticos, S.L.	Co-ordinator	ASI	Spain
Hewlett Packard Italiana S.r.l.	Participant	HP	Italy
EUROPEAN DYNAMICS Advanced Systems of Telecommunications, Informatics and Telematics	Participant	ED	Greece
Research, Technology Development and Innovation, S.L	Participant	RTDI	Spain
Aristotelio Panepistimio Thessaloniki	Participant	AUTH	Greece
Alfamicro Sistemas de Computadores LDA	Participant	Alfamicro	Portugal
Manchester City Council	Participant	Manchester	United Kingdom
Ayuntamiento de Valladolid	Participant	Valladolid	Spain
City of Thessaloniki	Participant	Thessaloniki	Greece
Câmara Municipal de Águeda	Participant	Águeda	Portugal

For more information on the scope and objectives of the project, please refer to the Description of Work (DOW) of the project [1].

Executive Summary

With the great rise of Web-Based applications, people are familiarized with online services. STORM CLOUDS project aims to develop a Cloud Platform in which a group of internet based services, regarding Public Authorities necessities, will be activated. Thinking about Public online services, can make possible to improve the organization of Public Administration and to facilitate the communication between Public Authorities and citizens. The objective of the project is to define useful guidelines on how to implement the process of moving any public service into the cloud. These guidelines will be based on direct experimentation in four European cities, creating a set of relevant use cases and best practices. In a second phase of the project, the activated services will be transferred to other European cities and end-users feedback will be gathered during the process.

Pilot cities participating in the project are gathering different services that are not deployed in a cloud based environment. With this initial selection the cities will start an open innovation process to select the most suitable ones to be moved to the cloud. For this purpose, a number of stakeholders will be involved in the process.

This is a complex process as it comprises the selection of tools, involvement of stakeholders, motivation, gathering their opinions, consolidation, etc.

This document provides the elements for Pilot cities to carry out this process in the context of the STORM CLOUDS project. We will start by wondering "who is my stakeholder?", then "How shall I activate them?" and then we will have to process all the inputs received.

For the time being, this process has already started. Pilot cities, Agueda, Manchester, Valladolid and Thessaloniki, have proposed public services included in D.2.1: Requirement and Specification Document. The objective is, regarding the tools provided in the current document, select stakeholders and users and interview about the services to collect opinions. Using this information, we will be able to select which services to activate in the cloud.

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1   1 Introduction

1.1   1.1 Purpose (of the document)

The purpose of this document is to create a set of useful guidelines to complete the task T1.1: Activation of stakeholders and Users.

Following an approach based on the Open Innovation paradigm, the users' are expected to gather the opinion of all stakeholder in the cloudification process: each Pilot will identify and mobilize the stakeholders depending on the service proposed to be activated in the cloud. For this purpose, the document presents a number of useful guidelines that will be complemented with the dissemination material being prepared in WP6 and the work in progress within the project.

The document is divided in the following paragraphs:

- Chapter 1: Introduction: Gives a brief summary regarding the purpose of the document.
- Chapter 2: The Open Innovation Methodology: Introduces a summary regarding the Open Innovation, how this technology is applied to our project.
- Chapter 3: Guidelines for user's organizations: Proposes directives on how to get feedback from users regarding each step of the project.
- Chapter 4: User involvement: Focuses on the actions needed to achieve user awareness.

2 The Open Innovation Methodology

In this chapter it is presented a brief description about the use of the Open Innovation Methodology in STORM CLOUDS and how to activate and involve end-users during the development of the project.

2.1 The Open Innovation foundation

Nowadays, technologies are becoming more complex and difficult to understand. Besides, the window of opportunities for innovative processes is now narrower because of the amount of single individuals and companies involved [1]. The Open Innovation focuses its methodology gathering with the same value, external and internal ideas to accelerate the process of innovation. It assumes the idea of combine innovative processes, with inflows and outflows of knowledge from the own company, to improve the innovation.

The same assumption applies to user driven innovation [6], which implies that the source of the innovation process is an intense understanding of customer needs [2] and a continuous interaction between the user and the development of the new idea. It promotes the direct involvement of the end-user in the innovation process and that can effectively reduce the chance of failure. It also is determinate to the study of the viability of a new product or service or may modify it obtaining a competitive version. That can make saving a lot of money because, a company have a preliminary idea of how accepted is their new service. At the end, user driven innovation translates customer knowledge into unique products and experiences [2]. For improve that, von Hippel defines the idea of 'lead-users', users ahead of the majority respect to an important market trend and that expect to gain relatively high from a solution [3].
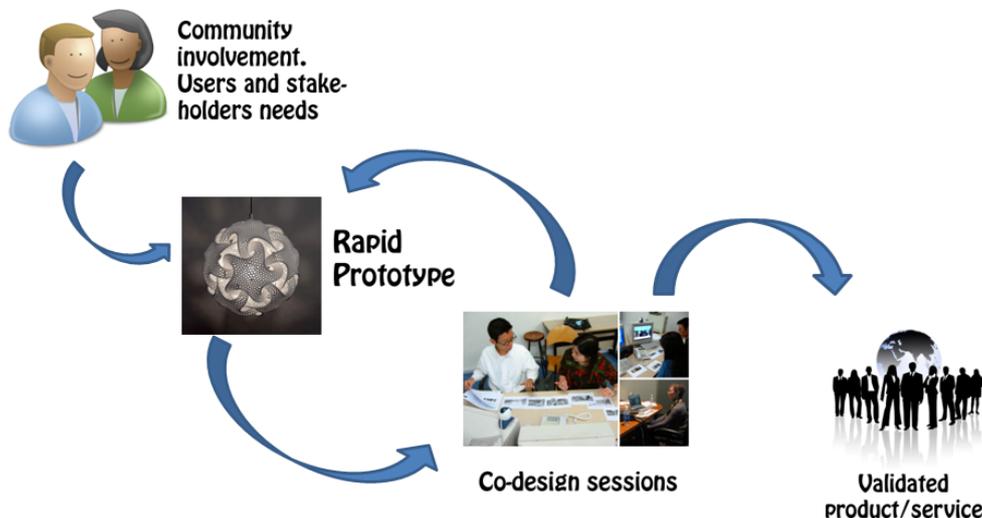

Figure 2-1- The Open Innovation Methodology

The innovation processes use iterative innovation cycles. First, it is established the innovation environment, describing the scenario and the interaction between the main parts with first experimentations on simple use case. With this limited intervention, user needs are identify and some problems can be solved. Refering that, techniques to keep the user engagement are applied. After that, iterative innovative cycles happen with the evaluation of users reaching the service.

An important issue is the activation of the stakeholders. During the innovation process, ICT services are used to involve the users and to get information dissemination. For that, it is studied interaction between users and ICT services. Also surveys and interviews are used to ask stakeholders their opinion.

This methodology entails the treatment of the innovation process as an open system. With open data models, information will be freely available to everyone, covering more market opportunities and being applied not just in product and services, also in business process.

2.2 The previous experience in PEOPLE project

PEOPLE project aimed at speeding up the uptake of smart cities through the rapid implementation, deployment and uptake of innovative internet-based services in order to allow facing the main challenges of developed cities at present and towards their future quality of life. One of its main outcomes was the development and testing of a User-driven Open Innovation Methodology for the selection and deployment of smart city services, which contributes to the establishment of Smart Urban Ecosystems. Four Pilot cities were selected to develop different services according to user-driven Open Innovation methodology.

The PEOPLE project has implemented several innovation cycles working with the idea of growing with the interaction of users and stakeholders involved in the development of the project. The working plan starts with the Preparation Cycle with the following parts: the scenario definition, which represents the project by each pilot case; the activation of stakeholders involved in each scenario, consisting of selecting 'lead-users' of group interested or affected by the innovative process; definition of the services developed, several services are defined in a first stage but few of them are developed regarding the stakeholders feedback. In PEOPLE, internet and social networking technologies are used to involve end-users and stakeholders in the project. After the Preparation Cycle, iterative Innovative Cycles happen in which the development of services is determined by the iteration with the end-users.

2.3   The Open Innovation process for STORM CLOUDS

The first objective of STORM CLOUDS is to implement a user-driven open innovation methodology. It is necessary to select adequate stakeholders and keep them engaged to the project. STORM CLOUDS project intend to improve the proper operation of Public Authorities moving their services to a cloud-base system. This objective makes user-driven innovation the best option to develop a new project based on stakeholder's opinions and experiences. End-users will decide which innovative internet-based services are interesting in and which are considered useful to be activated in the cloud.

STORM CLOUDS project is divided in 2 stages, the first one focuses in the development of a Cloud-Platform of Public Services. The aim of this first step is to create a set of functions that allow activating any service in the cloud. In this stage will be defined and implemented the Platform. Pilots cities has presented the services they would like to activate in the cloud. The idea, at the end of the stage, is to have a reduced group deployed. The second stage will focus in interoperability, reusability and scalability issues, in order to expand the project at European level. The aim of this stage is to transfer a reduce group of these services to others European cities following the portfolio developed in the first stage.

To achieve the user-driven Open Innovation methodology, two innovative cycles has been defined and applied in each stage.

The First Cycle is applied to the selection of the services to be addressing for each Pilot. Regarding a list of services proposed by the Pilots, a reduce list will be selected according the feedback from stakeholders. In this first point are define the first guidelines to implement the Cloud-Platform, where will be running the public services. In the Second Cycle, services has been selected and activated in the cloud. End-users will evaluate and validate these services, completing the functions necessary to implement the final Platform.

The figure 1 shows a diagram with the methodology that will be followed in the first stage. There are identifying the two innovative cycles regarding the first selection of the services to activate in the Cloud-Platform and following by the validation of these services before their design and implementation. Another important block is the activation and engagement of stakeholders that must be followed during all the process because of the Open Innovation approach that follows STORM CLOUDS.
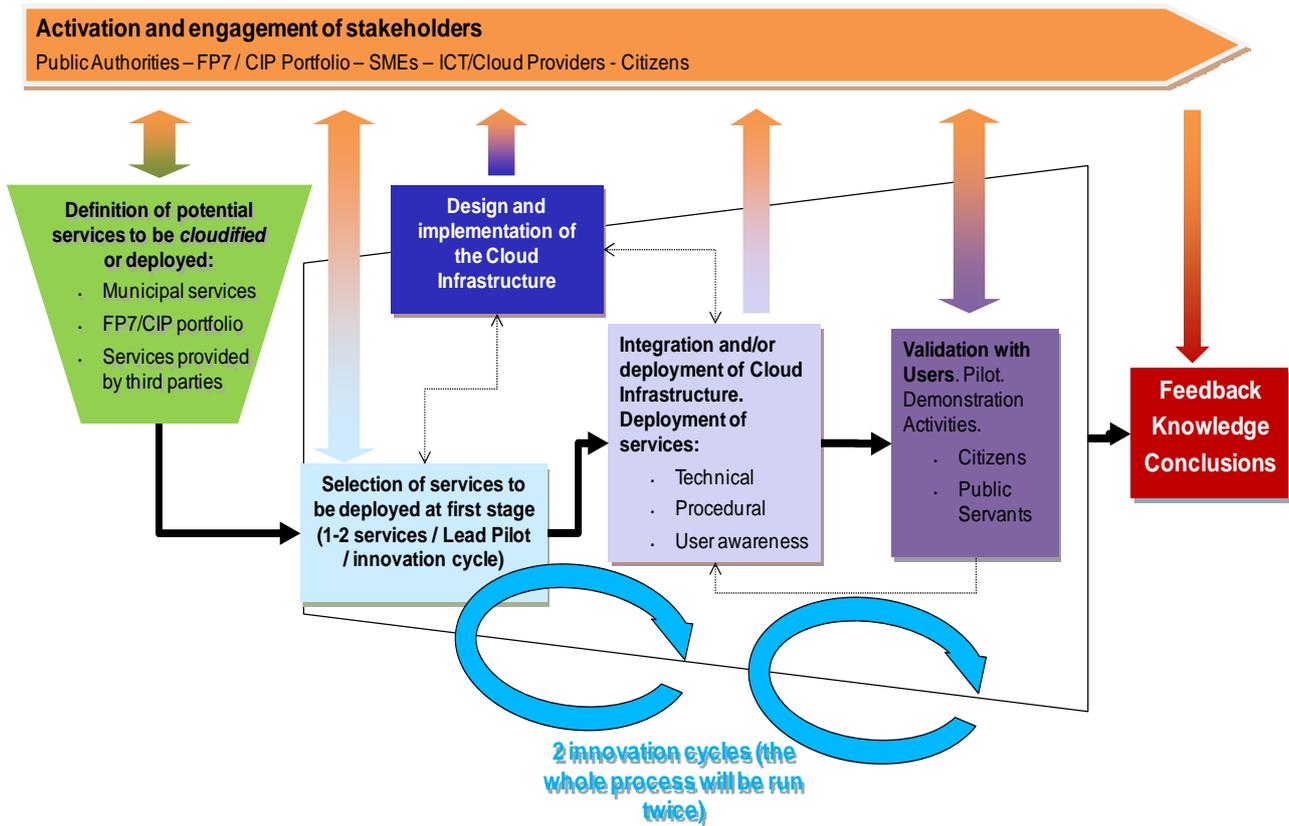
Activation and engagement of stakeholders
Public Authorities – FP7 / CIP Portfolio – SMEs – ICT/Cloud Providers - Citizens

Definition of potential services to be *cloudified* or deployed:
· Municipal services
· FP7/CIP portfolio
· Services provided by third parties

Design and implementation of the Cloud Infrastructure

Selection of services to be deployed at first stage (1-2 services / Lead Pilot / innovation cycle)

Integration and/or deployment of Cloud Infrastructure. Deployment of services:
· Technical
· Procedural
· User awareness

Validation with Users. Pilot. Demonstration Activities.
· Citizens
· Public Servants

Feedback Knowledge Conclusions

2 innovation cycles (the whole process will be run twice)

Figure 2-2- STORM CLOUDS Methodological approach: 1° STAGE

2.4   Impact of moving to the cloud

A definition of 'smart city': A city is considered 'smart' when investments in capital and infrastructure communications drive sustainable economic growth and higher living standards, together with the efficient use of natural resources [4].

In the 'smart city' model as an objective in STORM CLOUDS, the most important technical impact will be the creation of a Cloud Platform infrastructure, which can be extrapolated to other cities. The platform will incorporate a basic function set and using it could be possible to implement any service from Public Authorities in an easy way. End-users could interact with the services using the platform defined, this tool is transparent to them. They will experience with intuitive applications through which they could access to the cloud, but technically they don´t perceived it.

The idea is to implement applications based on internet services and without many infrastructure needs. These applications are mostly developed or at least in this phase, because the point to focus is on the integration of these services to the cloud, no their realization. However, some technical infrastructures will be created, needed to deploy the service into the cloud. For example: to move a service as Sense the City, many sensors are required around the city to measure the pollution. So, in general, much technical impact will suffer the city regarding software applications and in some cases new technical and physical devices will be deployed. This last will also depend on the devices already available in the city.

Regarding the business impact, new services will be activated to the cloud, many of them directly oriented to small companies and tourism. In addition, Public Authorities will be affected directly with this project. They can save effort and money with the activation of public services in the cloud, what will improve the operation of Public Institutions and will facilitate communication with citizen. In addition, STORM CLOUDS project enables internationalizing markets and it's focused on social problems as pollution, unemployment, social care, etc. Improving services for these issues will have a positive business impact in cities as well.

STORM CLOUDS follows an Open Innovation approach so the working plan will be based on the activation and involvement of Users and Stakeholders. This is the aim of this document, a guideline for the identification of the users affected, their activation on the project and their proactive involvement during all the process. The selection of the stakeholders and users involved on an eParticipation process is an important and difficult part but essential for the deployment of the service. It is also necessary to maintain the users engaged to the project and this must to be taken in account to choose the user groups.

The first impression can give us the idea of big groups of stakeholders, but it does not entail that all important users are considered in our model. General users to consider, will be citizen, Public Authorities, small companies, etc, and it will be important to specify stakeholders groups within these. The selection will imply more relevant information to the acceptance of the cloudified application.

In order to consider all the stakeholders involved it is necessary to do an evaluation, specification, analysis and evolution of the objectives, functionalities, qualities and constraints to be achieved. A deeper study will provide a better estimation of the real impact of the services or products.

2.5   How to measure the results?

Working with a user-driven innovative process, the development of the project will depend on the feedback from users and stakeholders. It is useful to define a strategy for the engagement of end users during the stakeholder's activation, depending on the characteristics of these groups. We need to investigate about their interests in order to find out what to offer for their time and commitment. It's very important the way we interact with the stakeholders.

Important tasks during experiments:

- Decide how many people from each group are going to be selected as a meaningful data. It depends on the service/application to test. Taking into account the maximum defined in the description of work as 5,000 citizens.

- Make the user feel comfortable and explain with details the project and the services proposed to be activated. We must be sure that user has completely understood the idea. If it is possible, show an example of the service or the application released. Let use and explore it.

- Allow the end-user to ask any question.

- Keep it interesting, use non-technical language where possible and let end-users to speak.

- Present to the user a questionnaire and let enough time to complete it.

- Let them know how important their opinions in the project are.

With the results of the questionnaires, it is possible to have an idea about what services are more interesting for stakeholders. However, it is important to revise which services have already been developed and have this into account for quantifying efforts of implement them in the cloud. Probably, services already developed will be interpreted by users easily and will be more successfully implemented in the cloud. So stakeholders should be informed about the state of each service.

3 Guidelines for users' organisations

In this chapter, information about how to make the selection of the stakeholders and end-users during the development of the project is provided. It also proposes guidelines on how to get the opinions from these groups regarding the services/applications suggested to be activated in the cloud and to validate them.

For STORM CLOUDS project, cities already have in mind which services would like to activate in the cloud. It is focused on the deployment of these services on a cloud-based platform, and the aim is to develop the guidelines for being able to activate different services in the platform for any other European city. STORM CLOUDS follow the Open Innovation foundations, as it was exposed in chapter 3, so it is crucial to have into account a user-driven methodology, users and stakeholders will be involve during the complete process. Below, it is proposed some directives about the selection of the stakeholders in each phase of the project regarding the current situation.

The project is structured in two stages as we explained in chapter 3.3. In each stage there are defined two innovative cycles. The first one, in a more general range, consists in the selection of the services that will be activated in the cloud regarding a list proposed for each of the Pilot cities. The second one, more specific, consist on the validation of the services activated, giving information for the implementation of the Cloud-Platform. So there could be define two different scenarios regarding the identification of the stakeholders, what will be different in each case, and the way to obtain the information for the users involved in both cases.

3.1 The first Innovation Cycle, first scenario

This paragraph will provide with a guideline to identify stakeholders during the first scenario frame and how to obtain their feedback regarding the services or applications under consideration.

It has been defined the first scenario corresponding to the first Innovative Cycle. This situation happens when services have not been selected, so a preliminary identification of stakeholders and end-users must be done.

For this point, the selection of users involved in the project is general, covering big groups of citizens and people working for Public Administration.

Identification of Stakeholders

The identification of stakeholders and end-users at this point has to be general. It will cover groups of citizen and representation of officials and people affected from other interested sectors, e.g. tourism.

It is important to have into account what contributes each service to the cloud and evaluate the opinions of end-users regarding that. To achieve that, we can define the services proposed, in the context of each Pilot, regarding the following characteristics:

a) The physical means: explain the services regarding the benefits that introduce in the society.

b) The digital means: explain the services regarding a point of digital view, social communication. In this case the characteristics exposed are related to the technology innovation.

c) STORM CLOUDS means: explain the services regarding the project in concrete. Which advantages/disadvantages will have activating them to the cloud. This can be used to compare services.

Extracting this information will facilitate the selection of the stakeholders and services to cloudify. We can compare which one introduce more advantages to users and, according to that, what will be the groups of stakeholders more directly affected.

E.g. Blue Parking:

a) *Defines an application that facilitates to find and pay parking in the city.*

b) *This application can be installed in a Smartphone, commonly used, so people can log in to these services in each moment.*

c) *Regarding smart cities, this application helps workers from town hall about the management of the parking and facilitates the citizen to find where to park and how to pay.*

Attending to the definitions above, we can identify the following groups of stakeholders: citizen, people working for town hall.

Evaluation on Stakeholders opinions

After selecting the stakeholders, it is necessary to provide with some tools to compile opinions from them regarding the services proposed.

The first step is to inform about the project in general and about the services to be activated in the cloud. It is very important the user involvement, keeping them interested in the applications under evaluation and show how important are them to succeed with the cloud-platform.

The tools proposed combine a previous informative step about the process and ask for a feedback from the stakeholders. An added value will be advertising the project as an innovative idea to keep the citizen involved in improvements in the city. The ways can be through local TV or radio, leaflets, social networks etc. More information is detailed in chapter 5, User Involvement.

- **Online questionnaires**: with the advantage that they are easy to reach to many users. They can be uploaded in council website, where will be announce the project and the way to collaborate.

- **Public talks**: can be organized to inform stakeholders to the project, services and how to participate. The stakeholders could take part then, filling questionnaires there, physically or in the website depending on the possibilities.

- **Online chats**: where people could ask their doubts to others citizens or managers of the project regarding the services. There will be available a place where users and stakeholders can provide with their opinions regarding the discursions.

Figure 3.1. shows a block diagram with the tasks followed to complete the first Innovation Cycle. The preliminary definition of services will help to identify the stakeholders involved . With this information and using different tools as questionaires applied to stakeholders, it will be obtained their feedback about the services to activate.
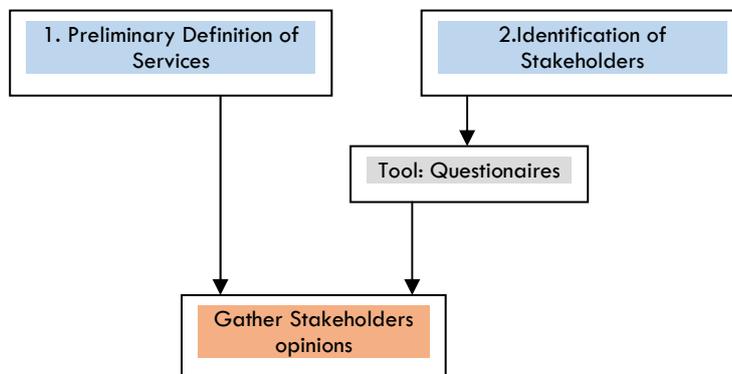

Figure 3-1- First Scenario

3.2 The second Innovative Cycle, second scenario

This scenario agrees with the validation of the services. The services have been activated in the first scenario before the evaluation from stakeholders. In the second Innovative Cycle, a deeper study regarding the services must be done, and will be selected more specifics group of stakeholders that will test the services and will give their feedback.

4.2.1. Identification of Stakeholders

The selection of stakeholders will depend on the service itself which must be analyzed in the city environment. Beginning with the first classification of end-users in the First Cycle, a segmentation of these groups should be done. When dealing with user-driven innovation process, an important drawback is the diverse range of stakeholders with different interests, education, languages or priorities. Users familiarized to manage technical devices versus citizen with a lower technical skills or people with deep literacy knowledge.

In general, the problem is to maintain the users interested in the process, and for this reason, is very important to separate in an own group of stakeholders and deal with each of them properly (e.g. users group: citizen; segmentation: citizen with technical skills/citizen without technical skills). In addition, this classification may increase the information from users, analyzing a broader spectrum of society.

For each of the services selected and in order to identify the stakeholders, we can use the following questions:

- What problem resolves the service?
- Who was affected with this problem?
- Who should be solving the problem?
- What is the current situation of this problem?
- What do we want to achieve with the service?

Regarding groups of stakeholders identify, we should have into account features as:

- Different levels of ICT skills.
- Different roles regarding public services
- Personal abilities/disabilities

We also should consider diverse users to provide with segmentations:

- Who the technology is for
- How it fits in with people's working practices or free time activities

4.2.2. Validation from Stakeholders

The services have been already activated to the cloud and specifics groups of stakeholders and end-users has been identify too. So in this section the point is to arrive to end-users involved and obtain their validation for these services.

Different options are proposed as dissemination of the project and as a way to get the feedback from stakeholders:

- **Update information in council website.** Users will accede to demonstrations of the services and will try them. This tool is easy to maintain and citizen can easily accede to the new information and questionnaires to give the feedback.

- **Forum groups:** they can be online or physical. Users could discuss regarding the services activated. People in charge will make note of the suggestions and impressions.

- **Real implementations:** prototypes will be situated in strategic points of the city where users could test the applications and give directly their opinions.

In this second scenario will be very important as well to keep the user informed. The ways to achieve that are detailed in chapter 5. User Involvement.

3.3   Questionnaires

In this paragraph there are proposed several Questionnaires for identify stakeholders. The information collected will help us to decide which services are going to be deployed for each Pilot from the ones submitted. Besides, it will be help to validate the services activated in the Second Cycle. The following can be used as an example about how to prepare this tool so each Pilot can modify this regarding their own environment.

Regarding the services submitted, several groups have been determined in relation with their functionality:

- Interaction citizen-government (e.g. *HotSpot*): allow the citizen to express an opinion or lunch a petition to the Public Authorities.

- Citizen services (e.g. *Sense the city*): oriented to improve the life for citizen in general.

- Public Authorities facilities (e.g. *SEDOC*): allow Public Authorities to improve the management of their work.

Once the stakeholders have been selected, it will be prepare a questionnaire specific for the group and service. It will have the following parts:

Part 1. At the beginning, a brief introduction, it should be explained the application/service to be evaluated. The following a set of personal questions and information from service. This part will be filled by the interviewer.

Genre: Male   Female

Age: less 30   30-40   40-50   50-65   more 65

Job occupation:

City:

Service/application under study:

Status of service:

Under development

Currently release as a prototype / under test

Delivered and accessible

Will help us to classify and identify the persons that are doing the experiment.

Part 2. Different Questionnaires should be prepared for each service as a guide of important issues to be taken into account. The purpose is to give an idea of what information is relevant obtain from stakeholders. You may add other questions specific for service or modify the ones presented. This part is filled by the user.

Interaction citizen-government

If the evaluated service is related the communication between people and Public Authorities, these could be questions key:

- General questions (regarding the situation in the city)
    - What are the main interactions you usually have with your Town Hall? (E.g. tax payments, incidents reporting, information request, legal/contracting issues…)
    - Have you ever done a petition to the Town Hall? Was it attended?
    - Would you like to report incidents in your city online?
    - Do you feel uninformed about Public Authorities decisions?
- Specific questions (regarding the service in particular)

- o What is your opinion about the current *SERVICE NAME*

- Are you interested in SERVICE NAME ?

- How often do you use/provide it?

- What aspect(s) of this service do you like most?

- What thing(s) need to stay the same?

- What aspect(s) of this service do you like least?

- What thing(s) need to change to make it better? How?

- o What is your opinion about cloudifying the *SERVICE NAME*

- Do you think that this application is a good idea?

- Do you think that using this citizen will express their opinion easily?

- Do you think the government will take this into account more than before?

- Will introduce this services some innovation regarding the solution previously used?

- Will be exposed sensitive personal information?

Citizen services

If the evaluated service has the purpose of improve the life of people in the city. These could be questions key:

- General questions (regarding the situation in the city)

  - Is parking a problem in your city?

  - Do you usually use maps?

  - Is there much tourism in your city?

  - Do you consider that pollution is a problem in your city?

  - Do people usually take public transport?

- Specific questions (regarding the service in particular)

  - Are you interested in *SERVICE NAME*?

  - Do you think this application introduces a new service that doesn't exist before?

  - Would you pay for this service?

  - Do you think that this application will improve citizen lifestyle?

  - Would you introduce some improvements to the application?

  - Do you think this application will improve the economy of the city?

  - What are the advantages/disadvantages of using this application?

Public Authorities facilities

If the evaluated service is oriented to improve the organization and work for Public Administration. These could be some questions key for public servants:

- General question (regarding the situation of the Public Administration in the city)

  - What is your general opinion about your Public Administration organization?

  - What are the aspects you consider work best in your Public Administration?

  - What are the aspects you consider work poorly within your Public Administration?

  - Do you think that the Public Administration in your city is slow and could be improved?

- Specific question (regarding particular services)

  a) In the case *SERVICE NAME* exists already (either in traditional/non-computerized or non-cloudified form):

    - What are the main barriers and difficulties you have found when carrying out this service?

    - What things you consider are working well when providing this service?

    - What are the main elements you would change to leverage the above mentioned barriers and optimize those which works well already?

    - Is there any best practice in the way this service is delivered that need to be considered?

    - Are there any known bad practices, common mistakes, inefficient processes to avoid?

    - Does this service involve the exposition to sensate information? If so, how is it currently managed, what are the main sensitive aspects considered?

  b) What is your opinion about cloudifying the SERVICE NAME:

    - What are the main important aspects you would like to see in the *SERVICE NAME* application?

    - Do you think this service will improve the organization of public authorities?

    - Do you think that will introduce benefits to public workers?

    - And to the citizen?

    - What benefits will introduce?

    - Will be exposed sensitive personal information?

    - In the future, what added features or improvements you would like to see in this application?

4 User Involvement

In this chapter ways to keep the involvement of stakeholders are presented, which is crucial when applying Open Innovation methodologies. In STORM CLOUDS, the tasks addressed to this end will be grouped into 5 main categories, corresponding to 5 different user activation phases:

Figure 4-1- Phases of user activation

1) <u>Development of the communication strategy,</u> depending on the stakeholders identify their characteristics and the services to be cloudified in each city.

2) <u>Information disclosure:</u> once a first list of targeted stakeholders and their communication channels are identified, information about the project together with the services to be deployed and the benefits they will bring out to the city will be disseminated.

3) <u>Consultation:</u> The information disclosed will serve to carry out first consultations, monitoring stakeholders' response and selecting those potential stakeholders finally interested, engaging them for the next phase (participation).

4) <u>Participation:</u> Engaged stakeholders will participate and be involved in the services deployment, improvement and exploitation processes.

5) <u>Negotiation & Partnerships:</u> Finally, when relevant and depending on each case, stakeholders and the STORM project will partnership by the end of the project working towards the future improvement and sustainability of the services deployed.

Some preliminary premises for involving stakeholders.

In general, there are three main aspects that need to be considered in order to make the involvement process as much efficient as possible:

1) <u>Identify and work with representative and community-based organizations</u>: working with 'aglutinators' always facilitates the involvement of a larger number of people and organizations.

2) <u>Clear Purpose</u>: State and make obvious the reasons for consulting with the targeted stakeholders and the benefits these consultations and their participation on the services will bring to them.

3) <u>Identify and attract 'key' users</u>:

- <u>Identify and engage 'lead users'</u>: As introduced by Eric von Hippel [6], a major finding of empirical research into user-driven innovation is that most user-developed products and product modifications (and the most commercially attractive ones) are developed by users with "lead user" characteristics. Lead users are defined as members of a user population having two distinguishing characteristics:

  - They are currently experiencing needs that will later be experienced by many users in that market.

  - They anticipate relatively high benefits from obtaining a solution to their needs, and so may innovate.

  STORM CLOUDS will engage this kind of users through its pilot leaders in order to guarantee the participation of users able to 'pull' from the rest of stakeholders in each case (business, administration, researchers, technologists, citizens)

- <u>Identify and engage 'promoters and defenders'</u>: Based on the classification of stakeholders provided by a World Bank study [5], the broad landscape of stakeholders for STORM CLOUDS could be divided into 4 main groups:

  - *Promoters*: have great interest in the STORM CLOUDS services and the power to help make them successful.

- *Defenders*: have a vested interest and can voice their support in the community, but have little actual power to influence the effort in any way.

- *Latents*: have no particular interest or involvement in STORM CLOUDS services, but have the power to influence it greatly if they become interested.

- *Apathetics* have little interest in STORM CLOUDS services and little power.
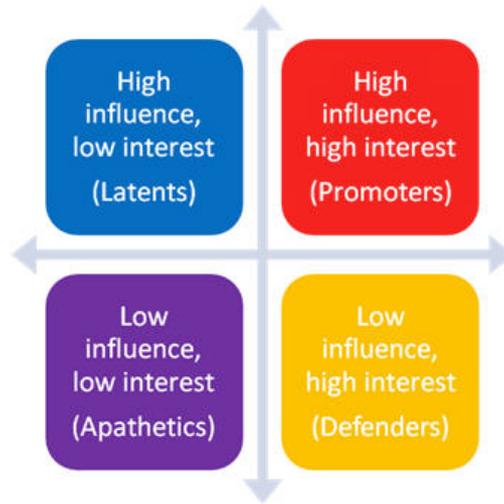

Figure 4-2- Classification of Stakeholders regarding involvement

User engagement: steps to follow.

Overview

During this first innovation cycle, as the services have not been selected yet, it will be necessary to consider a wide group of potential stakeholders. Namely, there will be 3 main groups of potential stakeholders that each city will need to explore its own:

a) Citizens

b) Public Authorities

c) Local SMEs and other relevant potentially interested industry

In addition to this, and at a different level now, the consortium will engage other cloud-related EU projects and initiatives, especially those related to the cloudification of public services, as directly related to STORM's aim.

During the second innovation cycle services validation will be the leading activities when interacting with stakeholders. Citizens, local SMEs and local administration stakeholders will have been properly defined and segmented. Contributions and experiences from other EU project for deploying and validating public services will be sought.

Engagement Steps

1) List all the local associations that represent relevant stakeholders in each category (citizens, local SMEs, public administrations servants, etc.).

2) List the reasons and construct a dialogue on why those stakeholders are relevant and must have a say in the development of your pilot.

3) Taking this into account, contact them and explain the project, its aim, and the relevance of having them onboard during the process. If necessary, offer and make clear the advantages and rewards (see next point) obtained by contributing to STORM CLOUDS.

4) Negotiate and use rewards as an engagement tool. Rewards are powerful engagement and negotiation tools. Rewards can adopt very different forms. Some examples:

a. A reward for a local association of citizens or SMES in compensation for their participation in the innovation process can be the inclusion of their logo and contact information in the local communications and dissemination materials distributed in the city by the pilot leader.

b. When wanting to attract numerous citizens for services' trial and feedback collection rewards can be a very useful tool. For instance, you may talk with your fellows' at the city council to get a bunch of free tickets for a local museum and offer them to all citizens that participate in STORMCLOUD surveys' or the trial of one of your services.

5) Select the most suitable activities and channels to be used for each stakeholder in each moment: In each case, the channel(s) to be used will need to be selected and adapted accordingly. A preliminary list of activities and channels for stakeholder's involvement is provided:

- Newsletters: provide a mechanism for keeping stakeholders informed; they should include a feedback mechanism. The STORM CLOUDS website will be a relevant channel for centralizing the emission of newsletters and the reception of stakeholders' feedback, ideally in local language (according to pilot's local language)

- Personal meetings: may be used by pilot/services leader to engage opinion leaders from stakeholders to engage its whole community.

- Use the power of social networks as a way to get to the users and keep them posted. Register an account for your pilot in the most popular social networks: Linkedin, Facebook and Twitter so that stakeholders can be informed, follow your activities and interact. Publish regularly and listen to stakeholders' comments.

- Promotion: any kind of advertisement e.g. stands on the streets, leaflet, local TV, local Radio, etc.

- Working groups: groups with responsibility/interest for specific aspects of the STORM CLOUDS services, e.g. assessing community needs and priorities.

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