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Idea Crowdsourcing in Public Sector – Proof-of-Concept Study

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Abstract: Following the most innovative cities of the world, City of Zagreb started in February 2017 the pilot project “Zagreb – Innovative City”. Pilot project is aimed to prove that the advance of the communication between the city administration and public (citizens, experts, businesses) is possible via social media network for crowdsourcing of innovative ideas. Implementation of the service gathering and converting ideas to beneficial projects should improve:

- services for the citizens as well as
- city administration efficiency.

The application www.zg-inovacija.eu was developed in March 2017 and run as a pilot, intended to be a “proof-of-concept” during the period for three months (April-June 2017).

Three areas of experimentation with consequent test outcomes were foreseen:

1. Level of **public** engagement – proved to be sufficient
2. Responsiveness of **city** structures in term of efficiency and effectiveness – demonstrated substantial improvement potential
3. **Technological** capability check – both development and operating were fully successful

The evidence for City of Zagreb responsiveness improvement potential is the fact that in the pilot project three months course not a one idea - among almost 200 submitted in total – was streamlined as an official city project. As conclusion the author brings three main recommendations areas for implementing permanent service of idea crowdsourcing, stressing as very positive the acceptance of implementing this innovative project by the City of Zagreb.

Keywords: innovation, ideas, crowdsourcing, social media, public sector, City of Zagreb, governance

INTRODUCTION

City of Zagreb Administration accepted in February, 2017 the proposal for the implementation of the pilot project “Zagreb – Innovative City”. As the first step, the advance in communication with Zagreb citizens, is planned. For this task the approach of innovative ideas crowdsourcing was envisioned. As far as available references show, this was a pioneering endeavor not only in Croatia, with rare similar examples even worldwide. Speaking about benchmarking we can take the City of Singapore as a role model for advanced city governance. “Business Insider” in its issue August 2014 [1] puts Singapore as Nr. 1 on the list of most innovative cities in the world. In the most comprehensive “competition” of cities in the field of innovation (“Innovation Cities™ Index 2016-2017: Global” [2]) Singapore holds 7th place among total of 500 cities ranked upon 162 indicators with 90% of maximum points awarded. City of Zagreb is placed on modest 261st place with total of 65% of awarded points. Zagreb is ranked near Anchorage, Green Bay, Suzhu and Chengdu, most of them “never heard about” cities (one scoring point better than Belgrade, Serbia).

This City of Singapore has a citizen engagement system which was studied as best practice example for the project “Zagreb – Innovative City”. Their system is based on strong decentralization of activities and directed to already existing projects, where citizens can add their ideas (project improvements or objections upon). It is similar to well-known kind of crowdsourcing – “challenges” or “calls” where the contributors act upon given themes, e.g. children playgrounds, healthcare, traffic etc. in defined timeframe. The brand new platform for completely open citizen ideas gathering in city of Singapore was announced in June 2017: <https://ideas.ecitizen.gov.sg> , stating:

“Singapore’s first government crowdsourcing portal, where we want to hear your ideas that can help make a difference to fellow citizens.” .

Exactly that is the main outcome planned for the project “Zagreb – Innovative City”, started in April, 2017!

Geographically closer comparison can be made with the service <https://www.uticaj.rs/> , functioning on national level. Despite of the fact of backing through prominent organizations (USAID, HB Stiftung, EU among others), the reach of this service aimed primarily to petitions is obviously very low: 32 petitions in total with few endorsements, very few initiatives (2) and complaints (1).

When considering the position of Zagreb on the ranking list mentioned, the specifics of innovation culture and practices in public sector have to be taken into account. There is no viable comparison recorded between organizations being on market and in the under the public sector “monopoly shield”. Even the same metrics of innovation performance (e.g. number of patents or share of revenue gained through innovative products) is not at all applicable. Some simple indirect evidence that explains the lagging back of innovation in public sector, compared with the real one, can be derived from the basic

consequence of missing innovation, formulated by the father of modern entrepreneurship and innovation, P.F. Drucker, some 30 years ago:

“Only those businesses and executives, who accept this (innovation rules, remark of author) are likely to survive!” [3].

Of course, this is applicable only to businesses operating on the market. Organizations in public sector can't go Chapter 11 and thus lack this “Darwin's” law of innovation in business. This is the main reason why public organizations are poor in innovation. This is why we need to change the innovation paradigm of “Market pull” in “Authority pull”. When speaking about “citizen engagement” our project has taken into account important source “Trends and Challenges in Public Sector Innovation in Europe”, where the term ‘*governance innovation*’, or new forms of citizen engagement and democratic institutions [11] has been introduced.

In the case of this pilot project “governance innovation” or “authority pull” in the form of initiative for the innovative project came directly from the mayor of Zagreb, aimed to demonstrate the capacity of citizens who push the Zagreb administration in realization of their ideas.

METHODS

By the generally accepted definition, **Proof of Concept (PoC)** is: a

„realization of a certain method or idea in order to demonstrate its feasibility, or a demonstration in principle with the aim of verifying that some concept or theory has practical potential. A proof of concept is usually small and may or may not be complete.“ [4].

In the project “Zagreb – Innovative City” our aim is to verify whether crowdsourcing as a method can ensure:

- **purposeful gathering** of innovative ideas from public, as well as their
- subsequent **preparing for implementation** projects which improve services for citizens and efficiency of city administration and city owned companies.

This pioneering endeavor can be realized solely if organization's leadership has an innovation implementation vision. This (en)vision is the very first phase in innovation life cycle as depicted in the “8E” scheme (Figure 1) developed by the author [5].

Innovation strategy - including the envisioning or first step into innovation – is the responsibility of top leadership. Based on that, respective proposal for “Zagreb – Innovative City” was submitted to the mayor office of City of Zagreb (dated January, 25th 2017). It was accepted in few days and the task force in City of Zagreb administration was appointed and the work contract signed 20.2.2017.

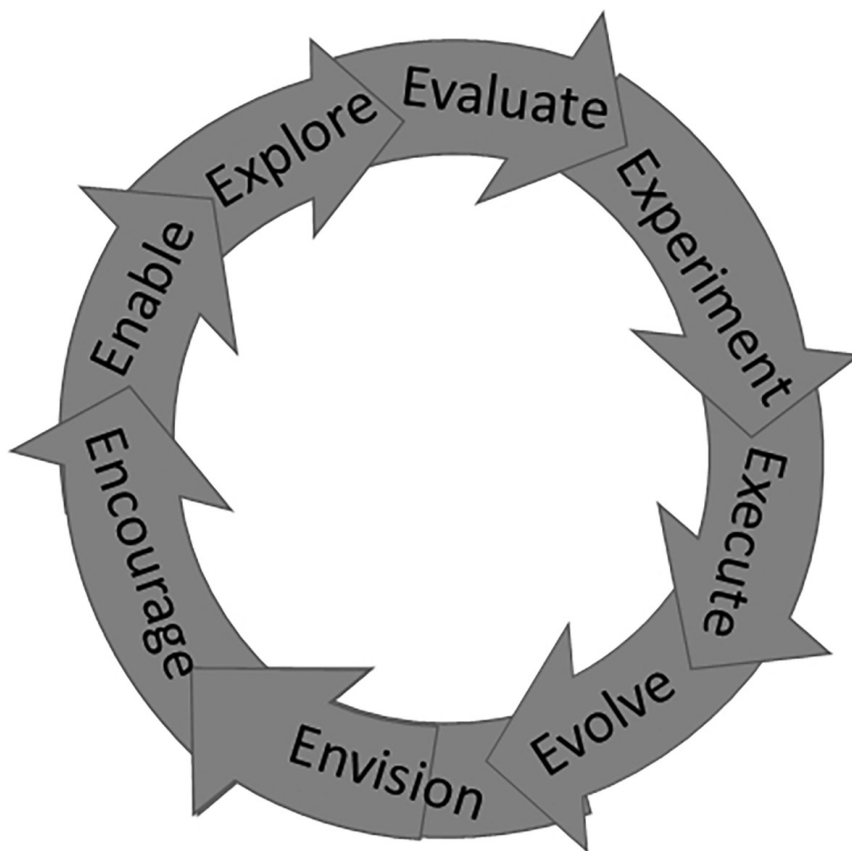


Figure 1: “8E” innovation life cycle

The execution of “Zagreb – Innovative City” project was based on the “RULEBOOK for initiatives reception and evaluation, approval, establishing, implementation and closing of projects in the City of Zagreb” [6]. In its Article 3 this rulebook provides that the “initiatives”, including innovative ideas, can be submitted by following participants:

“Initiatives can be submitted by city bodies, city administration employees and every physical or legal person (referred as “initiator” in further text).”

The pilot phase of the project “Zagreb – Innovative City” is focused on the participants group of “physical persons” – mostly citizens – who submit innovative ideas proposals in form of idea descriptions, comments, answers and evaluation ratings (further explained in the section “Material”).

FUNCTIONAL SPECIFICATION

As addendum to the project management contract, functional specification for ideas crowdsourcing solution was submitted containing five main sections, as shown in Table 1.

Table 1: Functional specification structure (initial)

1) Functional requirements for crowdsourcing tools
2) Standard forum/billboard functions
3) Objects structure and relations
4) Activities control and administration
5) Advanced functions
6) Niche functions

During the 1st month of pilot project operation, the users reported the needs for new or improved functionalities through dedicated closed Facebook page. In total 31 change requests were submitted and implemented. Six further changes were requested by the users in two following months of operation, which will be solved after the pilot project closing and migrating the application in permanent production.

SYSTEM DEVELOPED

After short analysis and collecting the users' requests, taking also into account short time for implementation (one month) and other resources available, following facts were taken into account and decision concerning the system (application) development was made:

- To attain broadest possible citizens' audience, the access through Facebook has to be enabled
- Native Facebook features do not cover all functionalities needed
- Facebook access to the application has to use relatively new "page tabs" feature aimed to enable navigation
- User registration/login should be enabled through Facebook or directly in the application
- Features mentioned above are not (easily) possible through any of existing open-source (freeware) application with crowdsourcing functionalities
- Licensed (proprietary) cloud-based solutions cause substantial costs for license fees
- The timeframe of one month for developing the application does not allow development with classical development tools from scratch
- **DECISION:** usage of open-source development tool WordPress, generally aimed for blog-like applications, what corresponds to most functionalities described in the specification submitted.

The screenshot of Facebook access page to the application is shown in the Figure 2. It is clearly visible that some level of navigation control is enabled through "page tabs" implemented, newly implemented Facebook feature (not in wide usage yet).



Figure 2: Application access through Facebook using “page tabs” feature (<https://www.Facebook.com/ZgInovacija/app/398514563838697/> , Croatian version)

The development of this application was commissioned by City of Zagreb administration to the company www.omnima.hr , which developed, implemented and maintained the system during pilot project time April-June 2017. Screenshot of home page is depicted on the Figure 3.

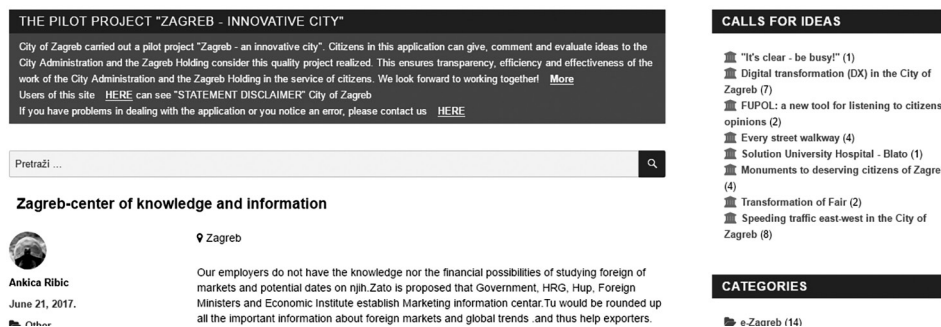


Figure 3: Application homepage (www.zg-inovacija.eu)

These functionalities are accessible for complete audience (Internet users not logged in). For logged users (previous registration via Facebook or via application necessary!) there is also „back-office“ home page in the form of dashboard, which assures the management of all aspects of application, see Figure 4 (differentiated for general and moderator users).

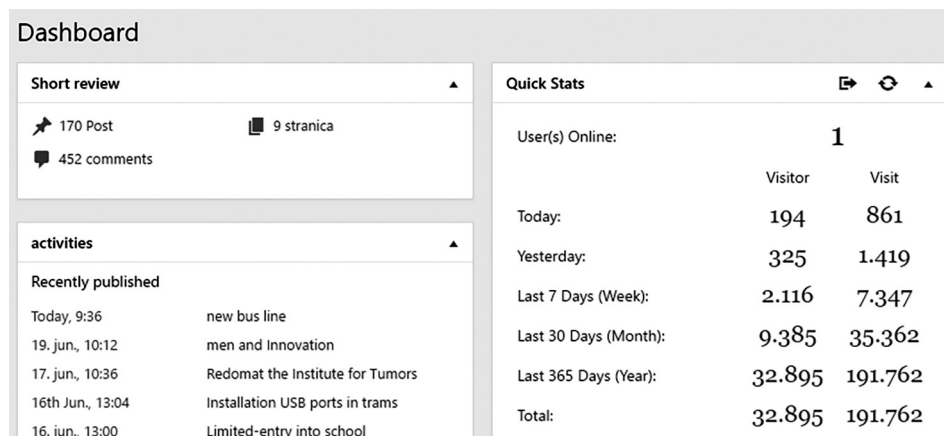


Figure 4: Back-office (dashboard) homepage (<https://www.zg-inovacija.eu/wp-admin/>)

Quick development in one month and continuous application improvement in the pilot phase evidenced the agility of the development tool, which is needed in such volatile environment.

MATERIAL

In this section under the “umbrella” term “material” the following will be described:

- Pilot project participants
- Participants’ inputs

PILOT PROJECT PARTICIPANTS

In crowdsourcing, as a special category of social media networking, everything is about people! These people are generally either expecting some inputs from the “crowd” or giving inputs (knowledge, ideas, services, financial means, goods). In our case we expect mostly innovative ideas and participants are doing the following:

- develop the concept and the challenges (“calls”),
- generate ideas (internally and from “outside”),
- contribute to further development of ideas (comments, replies, evaluation)
- prepare ideas for decisions
- decide on accepting ideas and their conversion into innovation (new/improved physical products/services, process improvements, organization changes)

Major focus is directed to the group of external participants, generally named as “public”. There are three important segments of this “public”:

- **general public**, citizens with ideas and interest in their further development

- **experts** in different fields, invited to contribute with their savvy either to decline proposals not feasible or to bring evidence for ideas with potential
- **businesses**, which can either propose ideas in their field of operation or evaluate the ideas in business terms.

In whole pilot operational period (April-June 2017) in total 207 users from the public were registered, as well as 47 in the role of moderators (from the Working Group appointed by the Mayor of City of Zagreb from offices and companies in public ownership).

PARTICIPANTS' INPUTS

All visitors can read the posts and registered participants can be active in the application – they can post idea descriptions, comments, answers and ratings. The participants mentioned made an input of 170 innovative ideas proposals and posted 452 comments and respective answers in subsequent discussion. In total more than 1600 likes were entered (in Croatian school grades system 1-5, averages adjusted according to number of grades submitted).

Concerning public participants' textual inputs (ideas, comments and replies), initially the risk was taken seriously into account about trolls, haters and other troublemaking visitors. Risk mitigation was performed by using the moderation step before publishing the post. Experience of first month of operation was surprising: not a one malicious message text was posted! Due to that fact the a priori moderation of public posts was switched off by system administrator. Of course some mistaken and incomplete posts were published, but after consulting the author, they were corrected or erased.

RESULTS

The *Department for business process analysis and improvement* within the Mayor's Office developed BPM based on the application and organizational setup for the pilot project "Zagreb – Innovative City" (ARIS). This 1st version of ARIS scheme on four pages is too complex for presenting here. For simpler presentation of the workflow elements and links between them are presented in the Figure 5 the depiction of the pilot project process.

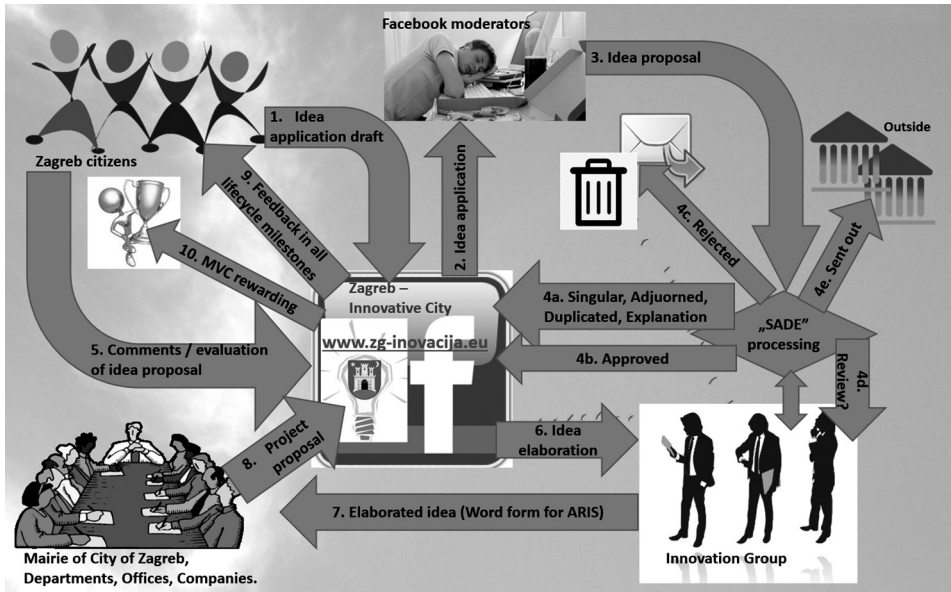


Figure 5: Medium level Business Process Model of the pilot project “Zagreb – Innovative City”

Results of pilot operation can also be presented related to application visits and hits, as shown in Figure 6.

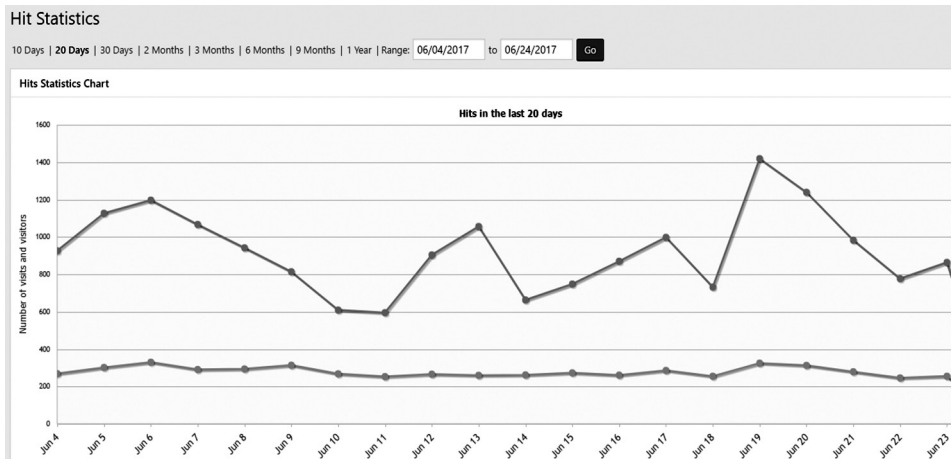


Figure 6: Hits chart from the application dashboard statistics (last 20 days)

DISCUSSION

During the pilot project period two formal meetings and many case-by-case discussions with Working Group members were held. Overall approach and details about innova-

tive ideas were discussed. Here we present three most important areas of opinion exchange:

1. general innovation friendliness in the organization (“innovation culture”),
2. focus on innovation magnitude (“innovative idea proposals nature”) and
3. communication with ideators (“communication conduct with citizens”)

, all three of them are very interrelated.

INNOVATION FRIENDLINESS

Implementing innovation process is very slow, tedious and complex endeavor. This applies especially in big public organizations. First step can be performed through “Authorities pull” (instead of “Market pull” as mentioned for businesses) and this was done in the case of implementing the pilot project “Zagreb – Innovation City” and defining the Working Group for processing innovative ideas and converting them into the projects.

Subsequent step is efficient and effective operation of ideas processing. This process depends of Working Group members’ availability, savvy and engagement. Actually, this is a kind of additional work for them with no obvious reward. Quiet contrary, very active engagement could raise “killing” arguments very well known in innovation management [7]:

- “Boss will never approve such thing!”
- “You obviously have no other work to do!”
- “Here we are not doing things that way!”
- ...

This situation is aggravated through the fact that the “lip service” behavior towards innovation is very strong, but the real engagement of Working Group members and their superiors in transforming ideas in projects was very weak in average. “Show me the numbers”: from 170 innovation proposals, not a one, official project of City of Zagreb in three month pilot period was launched! Nevertheless, some of innovation ideas were used as project announcements in the elections campaign that was in course during the pilot operation period.

INCREMENTAL OR RADICAL

Strong discussion also arose from the side of City of Zagreb Working Group members concerning eternal dilemma in innovation: small or big (i.e. incremental or radical)? Moderators from Working Group and their line managers criticized strongly the concept that also small improvements are considered as “innovation”. They claimed that in such proposals there is neither novelty, nor creativity. Then suddenly some radical innovation proposals arose (e.g. “Hydrogen fueled train” or “North traffic beltway”), where opposite discussion came on surface: “This is too expensive!”. It was a good trigger to

explain that innovative ideas are not to be judged on “volume”, but only on sustainable benefit they are bringing.

It is also to be taken into consideration that there are authors who prefer strongly radical innovation on expense of the incremental one. One of the gurus of modern innovation Clayton Christensen even invented the term “disruptive innovation” which is the main theme of his breakthrough book “*The innovator’s dilemma*” [8]. Similarly, Croatian innovation and creativity guru Velimir Srića brings that issue to the point in his new book “*Creativity and Innovation Management*” [9]:

“Instead of mincing around with small, cosmetic and incremental shifts, people engaged in reengineering try to see a problem differently, in search of new approaches.”

On the other side, some authors claim for balance stressing that the sum of benefits from many incremental product or process improvements can surpass one single radical one. They also bring the common sense in play: where innovation management system (IMS) properly in place many small advances are very likely. This is opposed to small prospect of even one breakthrough innovation, which changes “name of the game” and brings huge benefit! Here also comes the issue of creativity, as the ability to create something really new, which does not correspond with the notion of “small improvement”. This applies especially for local governments as described in the paper “*Small is beautiful*” by examples of 10 small successful projects [10]:

“What stands out most of all is that these projects have managed to achieve what they have *because they are small*. They started with limited but crucial amounts of funding, with focused teams to lead them, and have been given time to develop. This suggests that a stronger culture of innovation can be developed in local government from the ground-up, project-by-project, and the benefits and experience of doing so can build over time.”

COMMUNICATION WITH IDEATORS

We have already mentioned the importance of motivation for implementing innovation of Working Group members, i.e. employees of City of Zagreb administration as well as their superiors and colleagues. Motivation is also important for the public participating in ideas submitting and discussing. Key motivating factor is the communication which has to wake and hold awake the interest of citizens for their engagement. City of Zagreb officials formulated most of replies to idea proposals in a way that can be characterized as “bureaucratic” (“Overemphasizing regulation on expense of common sense and efficiency!”).

Example: “Jimmie Hendrix Bridge” – City department for building answered that the bridges officially can’t be “named”, unlike to streets and squares. When demonstrated that other Sava river bridges have name

shields (“Domovinski”, “Jadranski”), then the excuse is found that it is a railway bridge so Croatian Railway Company should be in charge (“some-one others job!” approach!).

Here some negative examples of officials’ communication towards the public:

- “Radio silence” (90 out of 170 ideas are NOT responded at all within three months pilot period);
- Long answers (mostly with strong self-esteem statements “We are working hard...!”);
- Declining the responsibility (“Someone other is in charge!”);
- “Shrinking the idea”: e.g. instead of accepting idea about famous Zagreb actor and singer statues, department suggested just memory shield;
- “Idea enlargement” - instead of small, concrete idea, big project as an alternative is suggested; this means uncertainty of realization and postponement!;
- Answers not related to actual question or suggestion (mostly referring to projects which do not exist or are not covering the essence of the innovation idea).

CONCLUSION

The aim of the pilot project “Zagreb – Innovation City” was the “field test” in the following areas:

1. Public engagement level

- Public engagement was acceptable, having in mind that practically no advertisement was in place: in average about 60 innovative ideas per month were submitted, no malicious or other troublemaking messages were recorded. Some of idea proposals were very good elaborated and constructively aimed to very important issues in City of Zagreb.

2. City responsiveness level

- The responsiveness of City of Zagreb was very positive in accepting this whole initiative, external commissioning the works (project management and SW development) as well as building internal structure for innovation management. During the pilot substantial improvement potential was observed in the area of city employees’ engagement – from moderators, to experts in departments and their superiors. Evidence for this conclusion lies in the fact that none of almost 200 innovative ideas proposals was started as an official project of City of Zagreb.

3. Technological capability

- The latest point – technology – turned to be fully functional and secure through the whole period of pilot.

RECOMMENDATIONS

Main three findings in the pilot were that technology applied can accomplish the purpose of the service (no glitches, functional), citizens' engagement has to be better supported (advertisement!) and city employees have to be more engaged (innovation culture). Thus the main recommendations, as the base for decision to advance with this pilot and to convert it to permanent service, for Zagreb citizens are:

1. It is indispensable to implement strong educational program for developing **innovation culture** in City of Zagreb, for employees but also as PR for citizens, so they could gain the perception that their ideas are accepted sincerely and seriously.
2. **Innovation Management System** and appropriate Innovation Department is to be established aimed to supervise the innovation process, with its open and internal segments. Appropriate metrics of innovation performance (e.g. ratio accepted/submitted > 5%). The system should define clear innovation accountability and responsibility rules.
3. All employees have to be **motivated** to participate in innovation process, including generally applied rewarding system (e.g. Toyota principle can be adopted – promotions for are managers depend also on their reports' innovation outputs, awarding "innovation champion employees").
4. **Communication** between "ideators" and "idea evaluators" should be improved:
 - "ideators" should be instructed for better descriptions of their ideas
 - "evaluators" should move focus from rejection to acceptance of ideas submitted

Taking into account the recommendations mentioned we can conclude with two most important points:

- It is **extremely positive** that City of Zagreb administration started the pilot project "Zagreb – Innovative City", which demonstrated the potential of crowdsourcing as a method in social media networking, aimed to upgrade the communication between City and its citizens.
- **Lessons learned** in this pilot are excellent basis for further development of Innovation Management System in City of Zagreb, primarily in developing innovation culture and innovation process.

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