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## D2.1 Analysis of Pain Points & User Feedback on Design Concepts

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## **Executive summary**

The present document is a deliverable of the CATALYST project, funded by the European Commission's Directorate-General for Communications Networks, Content & Technology (DG CONNECT), under its 7th EU Framework Programme for Research and Technological Development (FP7).

The main objective of this deliverable is to report on the work carried out in Task 2.1.

Task 2.1 is the first task of the Catalyst project involving all partners in an interactive Community Engagement process with three main objectives:

- 1. Enhancing community partners' understanding on what is technically possible with some of the Catalyst partners' tools
- 2. Refining the "pain points" gathered in the initial requirement analysis phase conducted during the proposal writing:
- 3. Agreeing where each partner priority falls in the Collective Intelligence spectrum in order to determine the main community needs that the Catalyst toolkit should aim to solve.

In the following we describe the specific methodology of community engagement as well as the format and tools used to facilitate face-to-face and virtual workshops with the community partners. We then describe the participants involved in the consultation and provide an overview of the workshop results. Finally we summarise the findings that will inform the next stage of system requirements analysis that will be the object of T.2.2 and T.2.4



# 1. Introduction: ten weaknesses in today's online deliberation and community management tools

## 1.1 Pain points definition

In the Catalyst proposal preparation period, the consortium initiated a virtual consultation with the community partners and asked them to provide a description of the main "pain point" encountered in the community's everyday practice. This consisted of a concise description of a specific obstacle that the community is hitting, with a short story and real life example of the situation in which the obstacle is encountered. Communities were also asked to propose how they would measure whether the obstacle had been overcome.

From the analysis of the documents produced in this initial consultation we gathered a pain points list used to guide the identification of the main community needs that the project should target and prioritize.

As a first outcome of Task 2.1, we describe below the list of 10 pain points that have been distilled from this first consultation phase and re-elaborated on the light of the results of the online consultation that will be described in the following.

#### 1.1.1 Platform islands and balkanization: pain point 1

Problem Definition	Open Question
Creating a shared deliberation space on today's Internet is difficult and getting harder. Community participants use different tools to support online debate and conversations then remain locked within tools. This implies that topics, ideas and outcomes of online conversations remain constrained to specific communities and fail to cross-federate debate across platforms.	

## 1.1.2 Cognitive Clutter: pain point 2

Problem Definition	Open Question
In large online conversations, same or similar ideas are	
repeated. Therefore, discussions do not progress easily.	What week wises took and muses on he mut in
	What mechanisms, tools and processes can be put in
amount of ideas that the community produces. Data	place to reduce the auplication of ideas?
duplication and confusion hampers the identification and	
development of good ideas.	

## 1.1.3 Shallow contribution and unsystematic coverage: pain point 3

Problem Definition	Open Question
Existing social media tend to elicit lots of shallow ideas,	
rather than a few well-considered ones, with haphazard	How can we support and encourage systematic and
coverage. Unfeasible ideas are debated too long whereas	deep coverage of all facets of a problem?
good idea may remain undeveloped.	



## 1.1.4 Poor summarization: pain point 4

Problem Definition	Open Question
Having humans produce regular summaries of a deliberation has proven extremely effective both for converging towards a shared understanding, and making sure deliberations do not die down prematurely. However, human created summaries are very time consuming. This is due to the fact that it is difficult to get a fair overview of what happens in an online community debate. Community managers have to spend a lot of time reading the debate in order to get an idea of who the key members are, what the most relevant discussions are, etc. In addition to this, how can they be sure that their perception is not distorted by the particular position they occupy in the debate?	How can we help summarise the state of a debate? What would make a good summary?

## 1.1.5 Poor visualisation: pain point 5

Problem Definition	Open Question
Whereas online debate is still heavily dominated by text-based content, most online users nowadays wish to have access to easy-to-understand image/video-based content that they can grasp very rapidly and share easily with their peers. Even though conveying results of deliberation with effective visualisation methods is difficult.	How would you visualize what happens in an online community? How can we make ideas and arguments more tangible so that they can be easily grasped, understood and shared?

## 1.1.6 Lack of participation in the discussion: pain point 6

Problem Definition	Open Question
Even with optimal methodologies, only a fraction of any group will actively participate in online deliberation. Having participants with widely differing levels of commitment, expertise and availability, contribute productively to an online debate is challenging. The value of individual contributions does not depend on either the frequency of contribution by an individual, or the time that that person can spend reading and contributing to the deliberation. Moreover, few individuals, who do not necessarily share the group's view, often dominate discussions. These factors make large-scale engagement and participation in online debate very difficult and often poorly productive.	How can we enable productive participation in very large groups and between people with widely differing levels of commitment, expertise and availability to contribute?



## 1.1.7 Poor idea evaluation: pain point 7

Problem Definition	Open Question
The most common evaluation mechanisms in online deliberation environment are users' voting or rating. But as the number of ideas grows these mechanisms prove to be weak and misleading. In fact, most people are likely to evaluate only a tiny fraction of the ideas, usually the ones at the top of the list. This implies that many ideas will be discarded just because they are down the list without any guaranty that they have been even considered.  Moreover, as most systems order ideas by rating, this will quickly convert into a negative feedback loop in which the ideas more voted are the most likely to be voted again and the less seen ideas at the bottom of the list will have more chance to never be seen. In addition, simple voting does not capture the rationale and criteria for the vote, which impoverishes people's understating of each other rationale, limits the crowd capability to build upon each other's evaluative expertise, refine and change opinion. This poor idea evaluation mechanism therefore converts into poor idea selection.	How do we move from idea generation to effective idea selection? How can we support idea evaluation?

## 1.1.8 Lack of innovation: pain point 8

Problem Definition	Open Question
Enabling innovation in an online environment is difficult. The two main reasons for this are the data overload and the lack of support for creative idea creation. Due to the vast number of contributions, people struggle to come up with truly new ways that can push the debate forward, and they often even fail to realise when the idea they are proposing has not already been proposed. Moreover the majority of the contributions tends to be mainstream (or "groupthink"). And only a few "stand out" are creative insights and/or breakthroughs. Besides, when it occurs, it is usually related to one "ideator" sharing his/her insight, with no co-creation process involved ("one to many" ideation versus "many to many" ideation).	What mechanisms, tools and processes could be used to enable group creativity in an online environment?



#### 1.1.9 Non representative decisions: pain point 9

Problem Definition	Open Question
Most online ideation, discussion and deliberation tools use simple summative voting for idea selection, information sorting and visualisation. Idea popularity dominates idea quality and impoverishes the quality of idea selection and decision. Moreover most voted ideas are not necessarily representative of the population involved because vote is voluntary and therefore less active participants may never see their ideas represented.	How can we ensure that points suiting everyone can be developed? Or at the very least, how can we ensure that ideas that are selected represent the most of the community, without breaking the boundaries of what is unacceptable for some?

#### 1.1.10 Poor commitment to action: pain point 10

Problem Definition	Open Question
In social media, participation is high but incitement to action is historically low. Online debate and deliberation tools are populate by enthusiasts who have interest in the subject, spend time and efforts into debating it, but have not yet committed into taking action.	How do we engage enthusiast/motivated audiences to translate the emerging trends and patterns into

#### 1.2 Pain points discussion workshop

The second step of Task 2.1 was to discuss and brainstorm on possible ways to address the main pain points of common online deliberation and participation platforms.

A workshop with all the Catalyst community partners was carried out in which participants were asked to discuss and prioritize the list of key community problems. The workshop was organised during the first Catalyst kick-off meeting and was set up as a pen-and-paper hand-on workshop, consisting of the following activities:

- Participants were divided into pairs and had to select two pain point questions, each pain point question being a critical question they had to discuss and answer, in pairs.
- Then, participants had 15 minutes to discuss the questions and write down ideas and solutions on a post-it that was stuck on the pain point A3 paper (See Figure 1 for a pain point page example)
- After that, participants had 15 minutes to discuss in pairs where would the solutions they proposed fall into the Collective Intelligence spectrum (Figure 2).
- A 25 minutes plenary session was then hosted for the representatives of each pair to present the questions & answers to the group, and to place the post-it describing these answers into the Collective Intelligence spectrum board on the wall (5 minutes per speaker per pair)
- Finally a 15 minutes plenary discussion was conducted to prioritize the pain points. Participants were asked to score each pain point in term of importance it holds for their community.

As a result of this workshop, some preliminary answers on possible ways to answer the pain point and open questions have been collected and are summarised in the table below.

#### **Possible Answers Workshop Artefact Problem & Open Question** (System features that may help overcome pain points are summarized as follow) Pain point 1: platform islands and • Provide browser plug-ins to allow deliberation in context (with balkanization tools, such as i.e. Cohere, which allow to annotate deliberation content across platforms). How can we create and maintain shared • Provide import/export from most common mail clients deliberation spaces on today's Internet, • Allow import/export of feeds and social media data that reduce issues such as balkanization • Enable roles/badges in the system, beginner vs expert interface to and platform islands? lower barriers to entry The problem of duplication has been found contentious. For some, unless the debate is highly contentious, duplication is not even a problem but it is in the nature of online debate and it is up to the participants to learn how to differentiate and identify similar ideas. For others this is actually a crucial issue to allowing the best idea to move forward in the deliberation space. Pain point 2: cognitive clutter In order to overcome this issue some ideas have been proposed on What mechanisms, tools and processes what a deliberation system should: can be put in place to reduce the duplication of ideas? • Provide a single entry for each idea and point to all the duplicate • Link to relevant ideas from each post where it is mentioned (and back) • Allow scoring down of the users that produced the duplication. This should work as a disincentive for people that would pay more attention before they entry new ideas to check if there are similar or existing ideas that match it. • Allow the system to reject any contribution and show the whole coherent picture to the group • Send email reminders to "nudge" users who start (but don't complete) contributions to come back and add their contribution. • Focus on motivating, supporting and rewarding reactive users Pain point 3: shallow contribution and rather than inactive users who may be too difficult to engage. unsystematic coverage • Organize real offline meeting to encourage people to bring their points forward. How can we support and encourage • Use competition and possibility to influence decision as motivators systematic and deep coverage of all facets to contributing to the debate. of a problem? • "Badging" or social status system for contributors: i.e. silver, gold, platinum status for heavy contributors. • Using semantic human annotation of web content to encourage reflection and deep coverage: i.e. tools such as Disputefinder, Reflect and Consider.it

#### Pain point 4: poor summarization

How can we help summarize the state of a debate? What would make a good summary?



- Using a variety of visualisation methods (diagrams, timeline, network graphs, charts, histograms, artwork, pictures, iconography, colours, etc) to help summarize the state of a debate.
- Human Supported summaries to represent higher level sense making on the debate (connections and meaning making).
- Ask "why", in order to build deep understanding and build good summaries.

#### Pain point 5: poor visualization

How would you visualize what happens in an online community?
How can we make idea and arguments more tangible so that they can be easily grasped, understood and shared?



- Visualise the debate as a map centered around the user so that participants can feel that the conversation "is about them".
- Provide maps examples to help users to visualise what they can build.
- Visualise by social network: who talks to whom and how people are topic-related.
- Visualise answers to questions as graphs.

## Pain point 6: lack of participation in the discussion

How can we enable productive participation in very large groups and between people with widely differing levels of commitment, expertise and availability to contribute?



- Ease the flexibility of communication channels i.e. allows using Facebook or emails
- Design micro task to lower barrier to data entry
- Design for intuitivity: How intuitive is the representation of state of a debate?
- Gamification: make contributing fan!
- Use customisation of information, incentives and rewards to promote participation.
- Show diversity: use demographic analytics to tell a story of who is already participating

#### Pain point 7: Poor idea evaluation

How do we move from idea generation to effective idea selection?
How can we support idea evaluation?



- Allow differential voting (contributions rating and ranking)
- Allow comparative and iterative voting, rather than one-off voting, to support idea negotiation, refinement and consensus building (see i.e "Vilfredo goes to Athens" tool)
- Favor objection making and argumentation to simple voting in order to expose the "why" for people choices.
- $\bullet$  Promote voting on abstraction before allowing voting on the details
- $\bullet$  Use analytics to support idea selection and evaluation.
- Encourage piloting of ideas in real world context or simulation environments



#### • Surface discussions/ questions to outside groups or disciplines (people not directly involved in the discussion) • Ask users to provide both pro and con of their ideas. • Use random prompts/red herrings such as in the "Oblique Strategy Pain point 8: lack of innovation Cards". These consist of phrases or cryptic remarks that can be used to break a creative deadlock or dilemma situation. What mechanisms, tools and processes • Allow anonymous contribution in some cases in which anonymity could be used to enable group creativity in can help freedom of ideas and speech an online environment? • Allow non-text based contribution (i.e images, videos or audio) • Set up creative competitions and games • Make sure to cover and present a rich variety of viewpoints to stimulate creative thinking • Not rejecting any idea but allowing divergent and convergent Pain point 9: non representative decisions phases of rich ideas generation and then ideas ranking, evaluation and selection. How can we ensure that points that suit • Analytics of stakeholders can help identify people who can help everyone can be developed? negotiation and conflict mitigation. Or at the very least, how can we ensure • Diversity of participants should be a requirement of healthy and that ideas that are selected represent the democratic discussions. most of the community, without breaking • Promote variation of sub-groups across time and allow remix and the boundaries of what is unacceptable for some? • Allow ideas to "emerge" (bottom up approach to idea selection) • Use pledging: gathering of users statements: "if this happens I will do this", as commitment to action mechanisms. • Gamification and competition to test out ideas in the real world Pain point 10: poor commitment to action • Organising face-to-face meetings can be motivating, supports socialising and makes virtual & physical connections between How do we engage enthusiast/motivated participants audiences to translate the emerging • Profit and incentives can support commitment to action; these can trends and patterns into concrete actions be implemented by building reputation indicators for jobs and to lead to further change? stakeholders Argument maps might shed light on the reasons behind successful/failures of real world initiatives

Table 1 - Possible answers to the Pain Points and Open Questions



## 2. Methodology of community engagement: the community workshops

After this initial phase of problem space definition and refinements, the project partners started the consultation outside the Catalyst consortium, working directly within the wider partners communities.

The partners used a blended approach to organise their workshop. Each of the 5 use-case partners choose if they wanted to conduct a face-to-face or virtual workshop and they were left completely free to chose their favourite tool for online collaboration.

Several technologies were used to facilitate distance communication. The partners used Doodle Poll to schedule virtual meetings and mostly Google Drive to share files across partners.

For virtual workshop the partners used mostly FlashMeeting or Google Hangouts. Both face-to-face and virtual workshop followed the same agenda.

The workshop agenda consisted of five main phases:

- 1) Participants Introduction
- 2) Demonstration of Catalyst's Partner Technologies
- 3) Reflection on Community objectives and needs
- 4) Problems Discussion and Prioritization
- 5) Final Comments and Feedback Gathering

## 2.1 Phase 1: participants introduction

People were asked to introduce themselves and to describe in few words a story from the future by asking them the following question: "If you had a magic wand to get the perfect Collective Intelligence tool, that would solve all of your problems, what would this tool do?"

The most compelling participants' stories were video, audio recorded or transcribed afterward.

## 2.2 Phase 2: demonstration and discussion of collective intelligence technologies

Each Use-Case partner appointed one or more workshop moderators who demonstrated some of the Catalyst partner's technologies by showing several technology-demo videos previously prepared by the Catalyst's technology partners.

Six technology videos, each 2-5 min long, were produced to facilitate this workshop phase and can be accessed at the following links:

Deliberatorium, <a href="http://www.youtube.com/watch?v=6dyJKLlgD4w&feature=youtu.be">http://www.youtube.com/watch?v=6dyJKLlgD4w&feature=youtu.be</a> Cohere, <a href="https://www.dropbox.com/s/qxzyun4fbitcbe6/Cohere-Movie-Catalyst.m4v">https://www.dropbox.com/s/qxzyun4fbitcbe6/Cohere-Movie-Catalyst.m4v</a>

Imagine, https://dl.dropboxusercontent.com/u/16234727/CATALYST/MeuRio%20imagine%20demo.mov

The Evidence Hub, https://drive.google.com/file/d/0BxMowJdlLOC Yk5leDhiOERmcWc/edit?usp=sharing

Assembl http://www.youtube.com/watch?v=fmlQ03JiqOI

Wikitalia http://www.youtube.com/watch?v=z5SK7DmmrAk&feature=youtu.be

Additionally one Pain Points video was developed to summarise the main Catalyst concepts and describe how the consortium see the main problems (or pain points) of online collaboration and how it can be addressed by an online deliberation platform: http://youtu.be/CAFfGShjlvY



## 2.3 Phase 3: reflection on community objectives and needs

After each video replay, the workshop moderator asked participants to comment on the video, by reflecting on the following questions:

- What objectives do your community groups have?
- How do you feel what you saw in the videos may be useful to reach these objectives?
- What is missing according to you?

## 2.4 Phase 4: problems discussion and prioritisation

During the fourth phase participants were introduced to the pain points that the Catalyst project has distilled as representing the main problems in today's online deliberation and community management.

Partners were first asked to express their ideas on:

• What pain points/ problems are a priority for your community?

Then the moderator would show the pain-points video or used a textual description of the pain point list to familiarise participants with the pain points list identified by the Consortium.

After that participants were asked

What is missing in the gathered pain point list?

Finally participants were asked to reflect and prioritise the pain points list. They could do this in two main ways:

- For online workshop participants by submitting an online survey;
- For face-to-face workshop participants by distributing the list of pain points (one sheet per participant) and asking them to rank the pain points importance on a scale from 1 to 5 (from very important to unimportant).

### 2.5 Phase 5: final comments and feedback gathering

Finally participants were asked to answer a short questionnaire, which aims to find out what participants learned from the workshop and if they gained any clarity on what they would need from a collective intelligence platform.

The questionnaire consisted of the following questions:

- 1. What was the most positive or enjoyable aspect of the tools you have seen today?
- 2. What was the most negative or problematic aspect of the tools you have seen today?
- 3. Do you have any suggestions as to how the tools could be improved?
- 4. What would you ask of a collective intelligence platform for your organisation?
- 5. Who do you think would be happy to use such tools in your community/organisation and why?

General feedback and comments were gathered from the final questionnaire results and are summarised in the workshop results in the nest section.



## 3. Targeted communities and participants overview

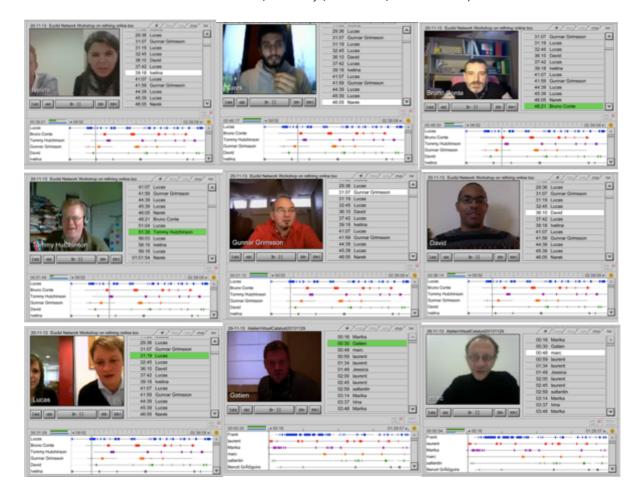
Five workshops were carried out in the last three weeks of November, one workshop per Use-Case partners. Each workshop involved in average 10 people.

50 people in total were consulted, 22 women and 28 men, 60 % over 30 and 40 % below the age of 30.



Figure 1: Participants to the face to face "CSCP "workshop

(From left to right: Isabell Ulrich, Pascal Machard, Ginnie Guillen, Nathalie Spittler – online-, Silvia Sartori, Mariana Nicolau, Jadwiga Zurad, Ahmad Hafiz, Lukas Altrock, Alexandra Croitor)





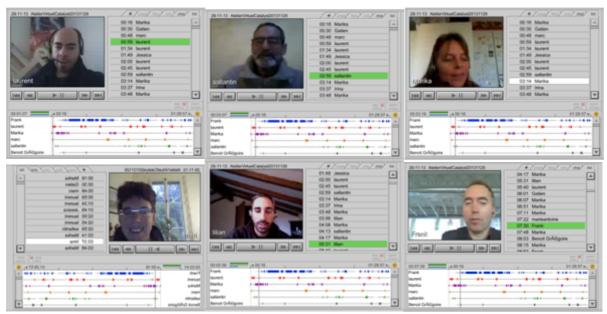


Figure 2: Participants to the Euclid network and Imagination for People virtual workshop

Participants were recruited mostly within the Catalyst's partner organisations and within the closer network of Catalyst partner's collaborators and end-user communities.

Target people recruited for the workshop have been:

- People that may play the role of "harvesters" for the Use-Case partner organisation in the next stage of the project.
- Some representatives of the Catalyst targeted end-user community,
- People who have been engaged already in some other collective intelligence and online deliberation projects
- People who have previously used some of the Catalyst partners' tools and could in some way express the needs of the Catalyst target community.

Workshop participants came from a variety of backgrounds and professions, which included:

- Project Managers
- Community Managers
- Software Engineers
- Consultants
- Founder of Community and Citizens networks
- Strategists
- Lawyers
- Designers
- Students and Interns
- IT Specialists
- Team Leaders
- Communication Managers
- Online Communities' Participants

This list captures well the target end-user communities whom the Catalyst ecosystem of collective intelligence and social innovation tools is intended to serve.



## 4. Workshop results

## 4.1 A story from the Future: "If you had a magic wand..."

"If you had a magic wand to get the perfect Collective Intelligence tool, that would solve all of your problems, what would this tool do?"

In the following, we report some of the more compelling stories from some of the participants. These can be used to get a sense of target community profile and needs, which will then be used to build users scenarios.

In the following you will find highlighted in italics the quotes that distill some of the features of a "dream" Collective Intelligence tool.

#### **Andrew Benedict Nelson**

"Hi, my name is Andrew Benedict-Nelson. I am a director at Insight Labs, the philanthropic Think-Tank. The communities that we engage with are really all sorts of folks. We actually spend most of our time thinking in interdisciplinary groups. So my answer to the question about Collective Intelligence...I would say, for us actually working out the different relationships is a big part of the work we do, so I wouldn't necessarily want the magic wand to make Collective Intelligence available. What I think I would want in life for my work at Insight Labs is some way of making the intelligence of groups that have already agreed on assumptions or all have a common set of tools, putting it all together very quickly. Because I am often surprised that many organisations spend time putting things together when they actually already have it. You get the sense walking in, why don't we already know the metrics for this method that everyone uses, for example. That is something that I have seen in a number of institutions that have that sort of problem. That's the magic wand that I would want."

## Joe Mitchell

"Hello, my name is Joe Mitchell. I am a strategist at Purpose, a social business designed to help non-profits, foundations, and companies build social movements. I engage with several communities. One that I thought would be interesting to talk about would be global democracy activists and enthusiasts. We have a Facebook page onto which we post interesting things. Then we go offline very occasionally. We have Skypes each month.

I think if I could wave a magic wand and create a Collective Intelligence tool, it would be something that would be easy for people to update and add their knowledge to, and more interesting about some sort of aggregating tool for predictions of the future, of the unknown, non-objective things that would be flowing and interesting."

#### Wil Kristin

"Community Centered Designer at Context Partners. My work mainly revolves around working with the communities of Foundations to source ideas and information in new and creative ways and then taking that information to co-design solutions for our clients.

The communities I engage with are primarily the grantee communities of Foundations and with communities of social entrepreneurs and change makers convened around specific issue areas. I engage online and in-person.

If I had a magic wand and I could get a magic Collective Intelligence tool that would solve all my problems I would remove language barriers."

#### David Colby Reed,

From Foosa in New York, noted that, as a participant in online communities he finds the hardest thing is contributing to the discussion without repeating what has already been said because it is impossible to keep up with all previous messages.



#### Ivelina Fedulova,

From Euclid Network, finds that while the use of many platforms has its benefits, as a network coordinator, it is very hard to make it work. She would therefore like solutions that make it easier to contribute and understand the discussion.

#### Gunnar Grimmson,

CEO of Citizens Foundation, says that he uses many tools for Collective Intelligence, and is yet to find one that works, and has therefore turned to developing their own tools that are asynchronous so people can contribute at any time. He also noted that when trying to get people to participate on the Internet, and with e-democracy, there needs to be a reason for them to participation, and it needs to be fun.

#### Narek Kostanyan,

Founder of Hamaspyur Foundation, is involved in crowdfunding and work within the community. He uses these tools to try and develop participation. In his experience, achieving participation is not always a problem, but continuous participation is; it is hard to **get people to engage on a regular basis.** 

#### **Bruno Conte**

A Social Entrepreneur and ICT Expert, observed that tools are becoming more open, but it is hard to combine the participation and communication features, along with ease of use. He added that he is aware of some platforms that achieve this, but these are expensive and only used commercially. His story from the future would be an open, easy to use and free infrastructure.

#### **Tommy Hutchinson**

Founder of i-genius, noted that the i-genius network has several thousand members in over 200 countries, and therefore an online platform that connects all these social entrepreneurs would be very useful. However, he has found that the existing platforms simply do not work when there are more than a few members. This is a particular problem when running online training sessions, as the technology is not always easy to use, and is too reliant on a good Internet connection. For example, if someone has paid for an online training session, it is unacceptable if the connection fails. Therefore he wants something basic and easy to use, which allows a group of people to meet and 'web-cam'.

#### **Eleanor Morgan**

Euclid Networks' Communications Manager, has found problems with online participation, noting that you can send material out to thousands of members but you are lucky if only a small percentage of them actual engage with it. Furthermore, members seem reluctant to share any material unless they are prompted to do so. Her story of the future is a Collective Intelligence tool that reaches thousands, and a participating community who stay engaged and is enthusiast to share.

#### Joseph Holt

Euclid Network's Network and Project Assistant, has an interest **in harvesting diverse knowledge from people to understand different viewpoints.** At the moment it is really difficult to understand different points online and a tool helping to overcome this difficulty would be valuable.

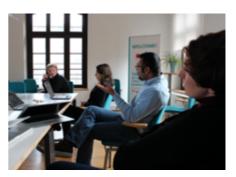


## 4.2 Reactions to the Catalyst's partner technologies

In the following we report from the notes of the workshops taken by the Use-Case partners. We aimed to find out how participants reacted to the Catalyst technology ideas and concepts. In particular: what tool or features they liked most, or found more intuitive and why. Which tool or feature they were excited about, etc.







*Initial brainstorming* 

Watching the videos

Discussion about the platforms

Figure 3: Images from Workshop Phase 2: discussion of project concepts and technologies

We summarise participants' comments by technology.

- Cohere, https://www.dropbox.com/s/qxzyun4fbitcbe6/Cohere-Movie-Catalyst.m4v
  - Cohere was considered "very dynamic, making clear the diversity of sources of contributions and opinions, really showing the collective aspect of the tool"
- Many considered it interesting primarily because "it was very visual, making the search for ideas and solutions quicker and more attractive", and because it seemed to "provide more opportunities to interact and contribute, instead of only providing information and stuff to process".
- In general the interface was considered intuitive and even "exciting" especially for its visual effect. People found mostly interesting the tag clouds visualisations of discussion topics, the visual representation of the connections between posts (as network graph) and the social network visualisation connecting users to arguments.
- Some people really liked this tool, and commented to have "never seen a tool which links ideas so well and visualises them so effectively". The only concern that was expressed is that it may not work on all browsers.
- Meu Rio Imagine, <a href="https://dl.dropboxusercontent.com/u/16234727/CATALYST/MeuRio%20imagine%20demo.mov">https://dl.dropboxusercontent.com/u/16234727/CATALYST/MeuRio%20imagine%20demo.mov</a>
  People in general found that the Meu Rio imagine tool was interesting because it was showing a very clear problem to be solved. Also the cleanness, tidiness and simplicity of design was really appreciated. Some also liked the way this tool connected to social media. However, the other comments were largely critical. Participants complained that discussions were closed to group members so it was not possible to see the interactive features in details. Some saw the fact that it requires people to tune in and participate regularly as a drawback, as it poses an issue for new partners. Some also thought the tool was too simple, suggesting that it was essentially just a voting system and little else. The tool was considered to suffer from a common issue found in many platforms, that is, they support communication, ideation and voting, but don't do anything about action: "Finding a way to involve participatory action into these online tools would close the circle of committed participation".
- The Evidence Hub, <a href="https://drive.google.com/file/d/0BxMowJdlLOC\_Yk5leDhiOERmcWc/edit?usp=sharing">https://drive.google.com/file/d/0BxMowJdlLOC\_Yk5leDhiOERmcWc/edit?usp=sharing</a>
  People in general thought the Evidence Hub was a powerful knowledge-building tool and they said they would be ready to try it in real work contexts. Some simply commented "wow" but did not really expressed why. Some specified they like the "built-in orientation to solutions and evidence". However some thought that the Evidence Hub was "confusing and complicated"; adding that "showing masses of text was not considered very engaging".



#### Assembl, http://www.youtube.com/watch?v=fmlQ03JiqOI

This tool received mixed reviews. Some people said that they "loved it and liked that you could collect items and shared resources in one place". Some people thought that Assembl could be very useful to create reports and they said "they would use it straight away".

However, on the opposite side, some people "thought it was very complicated" and "questioned how much you would actually use it".

In general the idea of a "table of ideas" and splitting topics seemed helpful, but also very depending on a strong and motivated moderator.

Some people suggested that it would be nice if it was possible importing multimedia files to the reports.

#### Deliberatorium, http://www.youtube.com/watch?v=6dyJKLlgD4w&feature=youtu.be

People liked the structure given to the various ideas and points of view in Deliberatorium. Even though there are concerns that "it is not how people argue in reality", people thoughts that the way Deliberatorium supports argumentation is a good way of visualising all of the possible issues for a group, especially for groups with a high degree of trust and adherence to the rules. Some proposed that Deliberatorium's approach would be more useful for the collaborative "elaboration" of content rather than for the development of civic activities.

Deliberatorium was also considered in general easy to use, even if some thoughts that the interface was too complex for the lay people but very useful for more expert users.

Nonetheless, this tool was less popular among the groups for a number of reasons.

Firstly it was considered to be "too linear and, so, not attractive to interact with".

Some people did not like it because of the way it looks: "it needs to be simple, but it also needs to look appealing so you want to use it". The way the tool looks seemed not very dynamic and seemed inspire by old Internet chat rooms. In general people thought that the tool lacked the appeal and interest to work effectively.



Figure 4: Workshop participants brainstorming on tools integrations

(Jadwiga Zurad presenting how Imagine can benefit from the visual features of Cohere)

Additionally one Pain Points video was developed to summarise the main Catalyst concepts and describe how the consortium see the main problems (pain points) of online collaboration as well as how this can be addressed by an online deliberation platform: http://youtu.be/CAFfGShjlvY

Participants finally brainstormed on the pros and cons of each tool (Figure 4) and proposed that incorporating the different resources and approaches that each of the tool provides would be ideal: the more "library style", with a lot



of content of Deliberatorium; the visualisation and the dynamic approach of Cohere; and the problem-solving approach of Imagine.

Also, a much more customisable approach to tool design was envisioned: "some people are more auditive, others more visual, others more up to contribute, others more up to receiving information, and these factors can vary not only from people to people, but within the same person, it can vary depending on the need and the mood".

## 4.3 Community objectives and needs

After each video replay the workshop moderator asked participants to comment on the video, by reflecting on the following questions:

#### What objectives do your community groups have?

- 1. <u>Group facilitation</u>: Some participants commented that one of the main objective of their work is mapping debates and discussions to avoid going around in circles
- 2. <u>Capturing best practice</u>: Another interesting objective is storing and collating interesting examples that could be reused in future work.
- 3. Group creativity: Some participants expressed as main objective developing group creativity, that is to say helping groups to develop big ideas rather than picking the best idea developed by a single individual in the group: "The main objective we have is using groups to figure out something that none of us knew before. We seek to iterate on one big idea rather than pick one best idea developed by an individual."
- 4. Source new ideas
- 5. Build shared identities
- 6. Deepen and expand collaboration
- 7. Find or test trends

#### How do you feel what you saw in the videos may be useful to reach these objectives?

In the light of what was discussed, and after watching the different Collective Intelligence tools, participants proposed different ways in which online tools of this sort of tools can help their communities, specifically:

- 1. Awareness raising and streaming opinions
- 2. Promotion of local forums for people to feel included
- 3. Mapping out expectations of the groups by interest / relevance, to support initiating action coming from the discussion
- 4. Prompting action, with clear targets, deadlines and people responsible implementation
- 5. Helping users to save time right now, there are so many platforms already out there, that people do not feel able to properly contribute to all of them, unless it helps members to improve their free time, their everyday activities, to live better
- 6. Help groups who already have some in-person interaction and trust to see what is missing from their universe of opinions or envision a whole that is greater than their parts.
- 7. Some participants also raised concerns over whether the more structured tools are the best way to bring about an authentic exchange in a group. Some think "emotions and spontaneity play a major role in that, and that is difficult to achieve in such structured forums."

#### What is missing according to you?

- 1. Concrete outcomes and benefits from using the tools
- 2. Clear incentives to use the tools (making clear the specific benefits, which could be related to the theme of the platform, the common origin of the users, the offer of really tangible benefits, like financial support, advice for personal problems, contacts, insights / ideas)
- 3. An explanatory video to open the website could be a dynamic way to present main features and benefits of the platform



- 4. A recognition system with an even stronger emphasis on what can be discovered or achieved by engaging in these processes. i.e "easter eggs" or "badges" that are earned by adding evidence to arguments or making a debate more diverse, for example.
- 5. A way to easily manage judges or shortlisters in an online challenge
- 6. Analytics around engagement.

## 4.4 Community's problems/Pain points discussion and prioritisation

The fourth phase introduced participants to the pain points that the Catalyst project has distilled as representing the main problems of partners were first asked to express their ideas on: "What pain points/ problems are a priority for their community?"

Then the moderator would show the pain-points video or used a textual description of the pain point list to familiarise to the pain points list identified by the Consortium.

After that, participants were asked what is missing in the gathered paint point list. The answers to this question were mainly:

- A lack of critical mass on so many issues! How do we get people to switch off the TV and contribute something online? It has to be great looking, beautifully designed, rewarding, something they can talk about at work the next day, seen as a social norm, etc.
- Platform evolution: basically, the idea of which tools a community should use for what purpose, when they should move between platforms or when a platform should be expanded in scope to include in-demand needs.

#### 4.5 Pain points prioritisation

After the Pain Point discussion we asked participants to rate the pain points on the basis of the importance that each pain point had for their community. The same question was asked to all participants to the community partners' workshops.

Participants could answer in two main ways:

- For online workshop participants by submitting an online survey;
- For face-to-face workshop participants by filling in one sheet per participant the list of pain points specifying the rank of each pain point in a scale form 1 to 5, from very important to unimportant.

A table was built by counting the ranks given to each pain point. Then, a weighted sum of the ranks preferences was calculated to obtain a total ranking indicator per pain point.

This provided the following pain point priority list for the Catalyst community:



Ranking Order	Pain Point	Very Important	Important	Moderately Important	Minor Importance	Unimportant	Total Rankir•↓
1	Poor Commitment to Action	15	5	1	1		100
2	Poor Summarization	13	6	3			98
3	Poor Visualization	13	5	2	2		95
4	Lack of Participation in the discussion	9	8	4	1		91
5	Poor Idea Evaluation	6	12	2	2		88
6	Shallow Contribution and unsystematic Coverage	8	8	4	1	1	87
7	Cognitive Clutter	3	11	7	1		82
8	Lack of Innovation	4	9	6	3		80
9	Platform islands and balkanization	2	8	9	3		75
10	Non Representative Decisions	4	4	10	1	1	69

Table 2 – Top 10 Pain Points ordered by community's priority

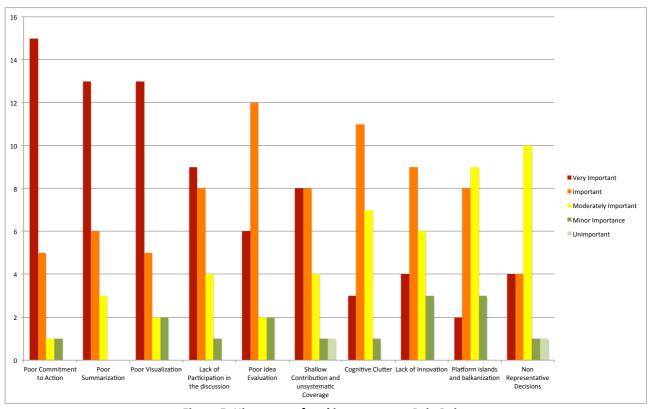


Figure 5: Histogram of ranking scores per Pain Point



#### 4.5.1 Top three issues: commitment to action, summarisation and visualisation of the debate

#### 4.5.1.1 Poor commitment to action

Decision-support systems that underestimate the complexity of socio-technical problems suffer from problem definitions not being collectively owned (Conklin, 2006), hence our focus on high-quality deliberation process. But even once candidate courses of action are clear, bringing motivated audiences to commit to action is difficult. Enthusiasts, those who have an interest in a subject but have yet to commit to taking action, are left behind.

We can clearly see from Figure 5 that "poor commitment to action" is a very central issue for most of the participants. Participants cared about ways to prompt action in community members, and even reaching a consensus was considered less important than being enabled to act.

Even though the Catalyst project does not aim to develop an "action" platform per se, the fact that the community considers this as a very important issue has to be taken into consideration, specifically by implementing features and mechanisms to moderate the issue of poor commitment and at least prepare (if not lead) to action. For example, one possible solution can be making it easy to publicly record endorsement of ideas and commitment to actions if they are adopted, this may keep community's enthusiasts moving forward and may help generate a real call to action.

#### 4.5.1.2 **Poor summarisation & poor visualisation**

Summarisation is a very important prerequisite to informed participation in online debates. Participants struggle to easily get a fair overview of what happens in an online community debate. Only the most motivated participants decide to spend a lot of time reading the debate in order to get an idea of who the key members are, what the most relevant discussions are, etc. The rest of the participants tend to reply to unsystematic stimulus and they do not get a real grasp of the different contributions already made before they make their own contribution to the debate. This problem is crucial since it also influences other pain points such as idea duplication, shallow idea contribution and therefore poor participation.

On the other hand, visualisation of concepts, new ideas and deliberations (structured or chronological) is essential for shared understanding, but suffers both from a lack of efficient tools to create them and from a lack of ways to reuse them across platforms and debates. Yet, most users of Collective Intelligence platforms (multilingual, multicultural communities, Generation Y, etc.) wish to have access to easy-to-understand image/video-based content that they can grasp very rapidly and share easily with their peers via social media channels.

Poor Summarisation and Poor Visualisation have been classified either as "very important" or "important" issues by more than 80% of the consulted people.

Many believe that poor summarisation and visualisation are "the biggest problems as these both result in platforms which are unappealing to the user, and therefore suffer from a lack of participation". In particular, visualisation of the debate was considered important for both the community who participate to the debate and community manager. Some claimed that: "As a user, visualisation is my biggest problem. It is often difficult to get into the discussion at the beginning. As a manager of these platforms, showing people what is going on is the biggest pain point."

For this reason, within the Catalyst goals stated in the proposal improving summarisation and visualisation of the deliberation process have to be made core objectives. Catalyst will therefore focus on the co-design of the requirements, functionality and tools that will be needed to deliver large-scale deliberation tools that improve summarisation of the debate and explore several visualisation methods and interfaces to communicate the key points of a debate.



## 4.5.2 Lack of participation, poor idea evaluation and shallow contributions to the debate

The 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> issue rated by importance are lack of participation, poor idea evaluation and shallow contribution to the debate.

More than 60% of the participants to the consultation did not consider these problems very important but still 55-65% of them ranked those problems "important" or "moderately important".

#### 4.5.2.1 Lack of participation

About 80% of the consulted people considered lack of participation either important or very important. Of these, 40% considered it crucial.

Even with optimal methodologies, only a fraction of any group will actively participate in online deliberation. Having participants with widely differing levels of commitment, expertise and availability, contribute to an online debate is challenging and often poorly productive. Moreover participation is usually one-off and maintaining presence as well as interest in the deliberation is hard.

Participants recognised that one of the most painful challenges an online platform faces is to keep participants engaged and actively participating. Network facilities that enable knowledge exchange among "selected" participants (i.e. the members of a large project) prove to be very efficient.

So the focus of interest seems to be more on how to maintain participation rather than on how to enlarge participation. As a general and recurring comment, also across workshop groups, many claimed: "it is better to have quality input from a small group than a lot of members but very little content". The real issue was considered to be "the lack of worthwhile and productive input. For example, liking something on Facebook is a way of participating, but it is not necessarily that productive". This is a very interesting statement to be considered in a project that aims at scaling deliberation processes.

Several participants suggested that, in terms of priorities, it would be more important that the actions discussed were taken into practice and that the platform allowed the users to track the development of these actions, measured the success achieved and followed up; rather then trying to engage a bigger number of participants to the conversation.

In summary the requirement would be: how do we maintain participation rather than how do we enlarge participation.

Enlarging participation was considered very important primarily for the communities interested in e-democracy, less important for community activists. For instance some highlighted a lack of participation, as Citizens Foundation's, as the biggest issue for the organisation, adding that without participation their attempt to encourage democracy via the Internet is ineffective.

#### 4.5.2.2 Poor idea evaluation

When there are thousands of ideas, as is common for innovation about complex problems, many emergent effects can deeply undercut the value of community ratings. Most people are likely to evaluate only a tiny fraction of the ideas, usually the ones at the top of the list. If, as is often the case, ideas are sorted by their average rating, one can expect that the system will quickly "lock" into a fairly static, and arbitrary, ranking, where the first few winners take all, even if they are inferior to many other ideas in the list. Even worse, stakeholders with vested interests can game the rating mechanisms in open innovation systems in order to manipulate, which ideas rise to the top. A single idea post with focused voting, for example, may beat out a better idea that had its votes spread over many redundant instantiations. In an open ideation engagement, there is also often a disconnection between the voting of the contributors, and the idea evaluation criteria (often implicit) held by the person who voted.



This problem is exacerbated when, as is often the case, people evolve their understanding of what they want as they learn more about the space of possible solutions. In general, current open innovation systems provide little support for a varied crowd building upon each other's evaluative expertise, or mentoring one another. They cannot see why other contributors provided the ratings that they did, nor is there a good way for them to examine and correct each other's facts and reasoning. At best, current open innovation systems just provide comment streams to capture discussions about the worth of an idea, and these quickly become unwieldy as the number of comments on an idea increases.

Between the consulted people, more than 80% considered lack of participation either an important or very important issue in online deliberation platforms; and only 18% of the participants considered it of moderate or minor importance. This can therefore be still considered a crucial goal for the Catalyst project.

Argumentation approaches to deliberation aim to tackle this issue by allowing the criteria and rationale of a vote for an idea to be captured as arguments in favour or against that idea. Catalyst will develop tools to build deliberation maps, in which people can enter arguments and counter-arguments concerning the value of the ideas being considered, so everyone can benefit from, and correct, each other's reasoning about which are the best ideas. Moreover different voting mechanism will be explored to integrate argumentation with more lightweight voting processes.

#### 4.5.2.3 Shallow contribution and unsystematic coverage

Open innovation systems tend to generate a large number of relatively shallow ideas. Open innovation sites do not in general encourage or support the collaborative refinement of ideas that could allow the development of more refined, deeply considered contributions. The majority of the contributions thus tend to be repetitions of a few obvious ideas. Moreover, there is no inherent mechanism for ensuring that the ideas submitted comprehensively cover the different facets of the problem at hand. The space of possible solutions is generally not specified up front, and there is no easy way for potential contributors to see which problem facets remain under-covered. The repetition mentioned above is detrimental to consideration of how similar ideas actually differ (improving understanding) or focusing on new ideas. As a result, social innovation systems often produce very partial coverage of the solution space.

About 70% of consulted people considered this problem important or very important to enable effective online deliberation while the remaining 30% considered this of moderate or minor importance.

The Catalyst project will therefore focus on the design and implementation of tools and mechanisms that can help minimise this pain point: by reducing idea duplication and enabling idea refinement, by using system alert and reminders to communicate data that needs attention and by putting in place reputation systems to motivate actively engaged users to move from quantity to quality production.



#### 4.5.3 Issues of moderate importance: cognitive clutter and lack of innovation

#### 4.5.3.1 Cognitive clutter

Social media discussions produce vast, redundant, and highly disorganised collections of contributions of widely varying quality. Often, the discussion is dominated by a few "loud voices" repeating the same points, and emotionality trumps logic and evidence. It is generally a huge task to find the "good stuff" amongst all the noise, or grasp "the state of the debate". This problem has been considered important by half of the consulted participant, very important by few (less than 15 %) and of moderate to minor importance by the rest of the participants (35 %).

Even though this problem scored lower in the communities pain points, Catalyst will still devote some attention to issues of reducing idea duplication both at the moment of data entry and for developing effective debate summarisation.

#### 4.5.3.2 Lack of innovation

Enabling innovation in an online environment is difficult. The two main reasons for this are data overload and lack of support for creative idea creation. The majority of the contributions to online debate tend to be mainstream (or "groupthink"), only a few "stand out" as creative insights and/or breakthroughs. Besides, when it occurs, it is usually related to one ideator sharing his/her insight, with no co-creation process involved ("one to many" ideation versus "many to many" ideation).

The problem of creative idea creation and co-creativity was considered highly important by 18 % of the consulted people while 40% considered it important. More than 40 % considered it of moderate or minor importance. In fact, some suggested that the problem of lack of innovation is often not due to an absence of new ideas, but rather to the lack of funding to develop these examples of innovation.

Participants had very mixed opinions on the relevance of this issue but still the majority of the participants ranked this issue as relevant (important or very important). Catalyst therefore will devote part of its development effort to support the mitigation of this pain point and provide tools for creative idea generation and co-creation.

#### 4.5.4 Issues of minor importance: platform island and balkanization, and non representative decisions

To be considered of minor importance and priority in Catalyst's plan are issues of Platform Island and Balkanization and non-representative decisions.

People do not seem to be particularly in need (at least at the level of perceived usefulness) of mechanisms to enable the free flow of ideas between platforms ranging from email to web forums to micro-blogs and social network sites. Even though in the literature this is clearly recognised, as a limitation of most common online deliberation environments participants did not recognised this as a pressing need. Catalyst therefore will devote partial attention to the aspect of enabling systematic integration with platforms outside the Consortium. An effort will still be put into experimenting, with some of the Catalyst tools, to what extent allowing cross platform idea exchange and reduction of "platform island" can improve the deliberation process.

Finally the issue of non-representative decision received minor attention. Interest from the core Catalyst's community to this problem seemed limited. This came out already as a result during the kick-off meeting workshop and was confirmed by the statistics on the pain point's scores. In fact, 50 % of participant considered this problem of moderate importance and about 10% of minor or no importance, therefore this pain point will score lower in Catalyst's priorities.



Potential Discussion Topics - Have you identified potential Topics that could be interesting to debate in your community?

Potential Key Players - Have you identified people that could be targeted as harvesters?

To the question of willingness to engage with the Catalyst tools, some participants expressed the need for more information about the project and the tools themselves. Only one person in the room (the facilitator) has official training in harvesting (Art of Harvesting), however, willingness to get involved in harvesting activities from all the participants are related to the content of the discussion and how relevant it is to their personal/professional interests.

## 4.6 Final comments and feedback gathering

Final comments and feedback were gathered by distributing a questionnaire. In the following we distill the main answers by question.

#### 4.6.1 What was the most positive or enjoyable aspect of the tools you have seen today?

- · Visualisation, because they would help people learn new things about a group and its opinions
- Opportunity to support building solutions
- Ideas network visualisation
- Network overview of topics
- Visualisations that allow for putting individual issues into the "bigger picture"
- Combining the options for organising discussions with visualisations and showing how they related to each other is very attractive.
- The use of color to give information on the nature of the edges of graph
- The gathering and filtering of arguments in the discussion
- The possibility to generate structured summaries

## 4.6.2 What was the most negative or problematic aspect of the tools you have seen today?

- Presentation and complexity of the interface
- Data sensitivity
- Accessibility
- Too much text and wording
- Design it is really an essential part that is not yet very developed in these tools
- The separate purposes and features of each tool, instead of having a blending of approaches and purposes
- These tools appeal to the user of social networks in general not everybody likes linking their personal Facebook page with work-related issues.
- Lack of tools for collective moderation
- Lack of tool interoperability
- All the tools are fairly mechanistic: difficult to get large number of people to follow the same strict rules in a debate, particularly a heated one
- Difficult to understand easily how each tool fits with the other tools, where one ends and the other begins.
- Time consuming and high human effort required to analyse, moderate and summarise
- Utility is not evident
- Too much « moderator » oriented rather than community oriented
- Risk to lose the richness of the human conversation in the attempt to structure it

## 4.6.3 Do you have any suggestions as to how the tools could be improved?



- To initiate the platform with the explanation of its features and opportunities (through a video?)
- Add Structure
- Provide systems generated overviews
- Simplicity, both in handling the tools and in their visualisation
- · User friendliness attractive, inviting interface,
- Immediate feedback to user inputs capability
- Having more features to appeal to different cognitive levels, material for the visual types, videos for those who like to listen, diagrams and explanations for the more linear-thinking people
- Make it very targeted
- Integration to Facebook, Twitter, LinkedIn where you can present your contribution (via shares, get likes, badges)
- Showing how much of something the collective intelligence has already achieved or who is a very active contributor.
- Gamification
- Good push notifications to improve tools' usefulness/adoption
- Idea discovery discover new things about what people think
- Build a clear "umbrella" for the suite of tools and give each of the tools a distinct purpose.
- · Improve graphic design
- · More action-oriented than deliberation-oriented
- Reduce features and keep each tool targeted and simple

#### 4.6.4 What would you ask of a Collective Intelligence platform for your organisation?

- Crowd-sourced solutions for sustainability problems
- People participating in it!
- Simple to use
- Provide good overviews of the most relevant ideas and actions that are taking place within the online community
- Improve efficiency
- Support discussion at different levels (local, national, EU, international) all in one platform but still being able to differentiate
- Have different languages
- Creating "library" with authors and content tags besides just collecting the knowledge and different sources on one discussion in some speech bubbles.
- Making the discussion attractive to people who are busy and not particularly interested in online discussions.
- A tool to annotate pads (Collaborative real-time editors)
- · Support to decision-making
- Real-time semantic engines to ease creating representations of a discussion
- Distributed moderation / harvesting as concrete priority for the community managers
- Attention-mediation tools
- Customisation possibilities including white labelling
- More blended participation: generate a list of concrete and simple activities that can be implemented offline
  in order to trigger a positive feedback loop which brings in return more participation and engagement to the
  online activities.
- Producing tangible outcomes
- Identify topics that could lead to action
- Identify consensus around ideas and manage conflicts
- Transparency



## 4.6.5 Who do you think would be happy to use such tools in your community/organisation and why?

- Young people to try a new way to debate
- Politically active internet users to understand better a topic and the existing arguments
- Bloggers or content producers that want to analyse discussions or brands that want to understand better their champions' thinking.
- Founders to better understand and manage their community
- · Decision makers to mitigate conflicts and summarise problems in order to reach consensual solutions
- Community activists to make their arguments more visible
- All the members of the organisation to better communicate, however up to now, the use of platforms are more a time-consuming task than something of real value
- None, There are already so many existing tools and networks so not sure who would like to engage into an additional one



## 5. Use-case partners' reflections on workshop results

## 5.1 General feedback to the workshop

What was the general feeling from the workshops? What did work well and what did not work?

The general understanding is that the workshops itself were very relevant and the topic very interesting for the people involved. Reactions were generally positive and people were intrigued. However, not all the participants of the workshops could directly make sense of the term Collective Intelligence.

The workshops started with an introduction of the concept and some examples. This helped to start the conversation about what are the best ways to stream Collective Intelligence as well as envisioning what kind of tools could support extracting the information and translating them into relevant actions. In most cases the workshops were very well received and the fact that the videos were short was also a plus although one or two more minutes presenting the actions undertaken after the discussions took place would have been even better.

In terms of workshop technology, the virtual workshops did not seem to be good enough for people to participate actively and equally. Participants felt that online meetings are still not up to the level to have a very effective workshop. Personal conversations are still preferred, online tools serve as back up for continuing conversations and as an instrument for accountability and follow up.

The format with the videos was useful to have standardised knowledge transfer to be on the same level. However, having to stop the conversation and independently watching the video that was not on YouTube or online, but had to be shared in advance, was more distracting. This made the workshops a bit static at times.

Moreover most participants thought that while the videos provided a quick overview of the "feel" of the software, what they really wanted was to try actual software.

In general participants felt that despite how sophisticated the tool would become, personal interactions are still needed to set the topics to be discussed and reach agreements on actions derived from the discussions.

Also, issues of privacy are also important to be considered when thinking to system alerts and recommendation. Participants commented that one of the most annoying features of Facebook or Google+ is that the software recognises words in your conversations and bombs you with advertisement and even adds you into a network without your permission. This was considered as something to avoid.

Workshops had a good turnout and most Use-Case partners had no trouble getting participants to talk. Targeted community of participants consisted of knowledgeable community managers with a number of ideas on which way is the way forward. While varied, often were convergent:

Everyone mentioned in some form that they want human-editorialised visualisations of the discussion (summarisation and visualisation features).

On a related note, they had mostly positive comments about all tools that expressed advanced visualisation and design features: i.e. network graphs, dynamics maps, edge colours etc. Even though, there is a shared concern that visual graphs are only understood by those who built them. This is why other kinds of visual representations must be developed, instantly understandable by people who did not participate in the design of the graph itself.

The consulted community animators were surprisingly inclined towards more structured representations, with several mentioning them without prompting. Balancing this, some people expressed the concern that "most people don't



think in structured argumentation – they want to scribble down an idea as soon as possible, and maybe respond at random to several unconnected points – by imposing structure, the fun goes, and you lost whatever that person was going to add".

Another big concern shared by many and that captures a big risk associated to the development of the Catalyst toolkit is that chances of going to scale are slim, because there are so many competitor platforms and tremendous users fragmentation that "nobody uses any new tool and we end up in Facebook and shared Evernotes".

Nonetheless the consulted participants were quite willing to follow up and especially to try tools. Therefore, out of this engagement phase, we also gathered a mailing list of potential end-users for the Catalyst toolkit.



## 6. Conclusions: knowledge distillation and summary of workshop results

Tools alone do not generate intelligence. They need to serve individuals or processes. Any strategy for reducing the mass of information presented to a participant of facilitator must also include an explicit strategy to avoid eliminating weak signals in the discussion. A group's intelligence grows over time, a group can be trained. The same tool will not be adequate for every stage of group development. There is a risk that the availability of tools that can efficiently process a larger mass of information will cause more information to be generated or analysed, leaving humans as drowned in data. Finally what is a good representation of a discussion for one individual is definitely not guaranteed to be good for another. All these considerations shape the constraints and provide a sense of the magnitude of the challenges that the Catalyst project will have to tackle and trade off.

This first phase of community engagement provided very useful insights on the main aspects of technology design and development that will shape the following stages of the project. Qualitative data analysis was carried out on workshops outcomes which includes:

- Video replays of virtual workshops
- Notes taken from the participants during the meeting
- Workshop material and artifacts (such as diagrams, post it etc)
- · Online and pen & paper survey
- Questionnaire
- Reports from the Use-Case partners

The result of the analysis is a taxonomy of emerging terms as key features of an "ideal" Collective Intelligence Platform for Social Innovation. We therefore mapped the main examples of users needs expressed by the participants to these key features.

Figure 6 summarises the results of this analysis. In summary, a collective intelligence platform should be:

**Participatory** – This implies providing support to different aspect and types of participation such as: enlarging the base and number of the participating audience, maintaining participation of the more engaged and make participation more productive.

Fun – this implies implementing gaming dynamics, engaging should be "cool"

**Rewarding** – this implies building reputation, income or passions. A CI platform for social innovation needs be designed around clear incentives for the users to use the tools (like financial support, advice for personal problems, contacts, insights / ideas etc.)

**Interesting** – Design of the platform should be focused on the user, i.e visualisation and mapping could be made interesting by focusing on the "user" content and point of view by focusing attention on "key data points".

**Attractive:** Design is an essential component for improving uptake, people want to interact with something pretty and attractive, so the tools need to look appealing and "cool".

**Simple** – simplicity is at the core of success, people need tools that are easy of use, have a friendly interface and avoid doing too many things at the same time.

**Useful** – Users need to see immediate benefits of their engagement efforts or they will not participate. This can be obtained by producing tangible outcomes from the deliberation process, providing practical suggestions and hints on how to solve doubts and problems, from the simplest to the most complicated ones and more than anything and more then anything else by saving time and improving users everyday activities.



**Blended** – Deliberation should be not only virtual but also face-to face, in fact concrete and simple activities that can be implemented offline can trigger a positive feedback loop which brings in return more participation and engagement to the online activities.

**Multilingual** – Online deliberation tools for large scale awareness and social innovation need to bridge international boundaries, supporting different discussions at different levels (local National, EU and international, so tools need to be multimedia and support international collaboration and exchange of ideas.

Intelligent – A large scale online deliberation platform for collective awareness and social innovation need to be intelligent, this implies mainly: providing intelligent analytics, immediate feedback on users contents and activities and summarisations, data overviews and interactive visualisation. i.e tell the story of success and failures in the community, putting individual issues into the "bigger picture", showing how much of something the collective intelligence has already achieved or who is a very active contributor, Act fast and reply to people's needs right on the spot , reply with immediate feedback to user inputs capability, raise awareness on key issue and provide opinions streaming.

**Visual** – this implies providing improved visualisation, multimedia interaction, and UI customisation for different user types and attitudes i.e. material for the visual users, videos for those who like to listen, diagrams and explanations for the more linear-thinking people.

**Easy to Join** – modern platforms for community deliberation need to be open and make it easy for new participants to join the conversation, this implies: Finding easily a place to fit into the discussion, providing specific features to introduce newcomers to the discussion and integrate them in the social network, in other words providing ways for new participants to feel included.



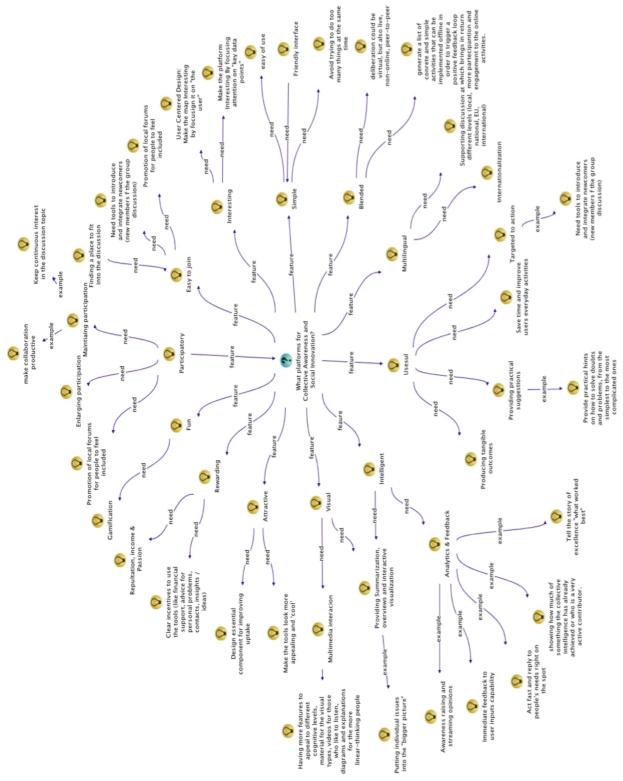


Figure 6: Emerging key features of CI platform and example users needs form which they have been derived From pain points to high level system requirements



As a final distillation of the workshop results, the following table summarises the answers on possible ways to answer the Pain Point and Open Questions (see section 1.2) in High-level system requirements for large-scale deliberation platform for Collective Intelligence and Social Innovation.

Problem & Open Question	Possible Answers (System features that may help overcome pain points are summarized as follow)	High level System Requirements (Prerequisite required for massive adoption of an deliberation platform are distilled below)
Pain point 1: platform islands and balkanization  How can we create and maintain shared deliberation spaces on today's Internet, that reduce issues such as balkanization and platform islands?	Provide browser plug-ins to allow deliberation in context (with tools, such as i.e Cohere, which allow to annotate deliberation content across platforms). Provide import/export from most common mail clients Allow import/export of feeds and social media data Enable roles/badges in the system, beginner vs expert interface to lower barriers to entry	Allow participant to continue using their current tools (mail client, web browser) to interact with the system. Bridging push or pull approach for a specific discussion is desirable (forum/mail bidirectional gateways).  Allow participant to continue using their current forum (mailing list, Facebook group, Twitter) to interact with the deliberation group. Similarly to the bridge across tools, a bridge needs to be built across proprietary social networks (but may pose some hairy authentication, API limitations and Terms of Services challenges).  Move a representation of all content across those disjoint forums (create a shared discussion space), adapted to the technical capabilities and culture of the forum.
Pain point 2: cognitive clutter  What mechanisms, tools and processes can be put in place to reduce the duplication of ideas?	The problem of duplication has been found contentious. For some, unless the debate is highly contentious, duplication is not even a problem but it is in the nature of online debate and it is up to the participants to learn how to differentiate and identify similar ideas. For others this is actually a crucial issue to allowing the best idea to move forward in the deliberation space.  In order to overcome this issue some ideas have been proposed on what a deliberation system should:  Provide a single entry for each idea and point to all the duplicate Link to relevant ideas from each post where it is mentioned (and back) Allow scoring down of the users that produced the duplication. This should work as a disincentive for people that would pay more attention before they entry new ideas to check if there are similar or existing ideas that match it.	Automatic support to the identification of duplicate ideas in the system     Allow merging or grouping similar ideas while preserving idea provenance     Mitigating the creation of duplicate ideas at the moment of data entry     Build a reputation system that accounts for duplication as a critical activity (and reduce people reputation when they duplicate content)
Pain point 3: shallow contribution and unsystematic coverage  How can we support and encourage systematic and deep coverage of all facets of a problem?	Allow the system to reject any contribution and show the whole coherent picture to the group Send email reminders to "nudge" users who start (but don't complete) contributions to come back and add their contribution. Focus on motivating, supporting and rewarding reactive users rather than inactive users who may be too difficult to engage. Organize real offline meeting to encourage people to bring their points forward. Use competition and possibility to influence decision as motivators to contributing to the debate. "Badging" or social status system for contributors: i.e. silver, gold, platinum status for heavy contributors. Using semantic human annotation of web content to encourage reflection and deep coverage: i.e. tools such as Disputefinder, Reflect and Consider.it	Deliberation map to represent the whole picture of a debate, organized logically, by topic, easy to see where a post belongs and, therefore, to see if that point has already been made. This way rather than replicating a point, people can simply refine it.  Alert and Reminder system to communicate data who needs attention  Reward system for active and quality content producer  Using blended approaches to promote idea development.  Reputation systems to motivate actively engaged users to move from quantity to quality production.  Coupled human semantic annotation and machine analysis to profile intelligent feedback for reflection and in depth content analysis.



Pain point 4: poor summarization  How can we help summarize the state of a debate? What would make a good summary?	Using a variety of visualisation methods (diagrams, timeline, network graphs, charts, histograms, artwork, pictures, iconography, colours, etc) to help summarize the state of a debate. Human Supported summaries to represent higher level sense making on the debate (connections and meaning making). Ask "why", in order to build deep understanding and build good summaries.	Visual analytics to describe the state of a debate, summarize important contributions, focus users attention on missing, contradictory, conflicting points. Content, Social, Behavioural and Discourse analytics to capture different dimension of the debate Combine machine analytical power with human higher level thinking, conceptualization, abstraction and summarization skills by providing machine assisted summarization features. Capturing actions and contributions rationale: by asking "why" for general users' activities such as, voting, promoting, demoting, commenting, adding, viewing etc.
Pain point 5: poor visualization  How would you visualize what happens in an online community?  How can we make idea and arguments more tangible so that they can be easily grasped, understood and shared?	Visualise the debate as a map centered around the user so that participants can feel that the conversation "is about them". Provide maps examples to help users to visualise what they can build. Visualise by social network: who talks to whom and how people are topic-related. Visualise answers to questions as graphs.	Generate users centered visualisations Build social semantic networks that represent how users relate in dialogical and topical terms (Who disagrees with who; who talks about the same things?) Use "learning by example" mechanism and provide visual examples to explain users activities.
Pain point 6: lack of participation in the discussion  How can we enable productive participation in very large groups and between people with widely differing levels of commitment, expertise and availability to contribute?	Ease the flexibility of communication channels i.e. allows using Facebook or emails     Design micro task to lower barrier to data entry     Design for intuitivity: How intuitive is the representation of state of a debate?     Gamification: make contributing fan!     Use customisation of information, incentives and rewards to promote participation.     Show diversity: use demographic analytics to tell a story of who is already participating	Integrate the debate with most common social media Design for micro contributions Use Intuitive Visualisations to communicate results Customise information to users needs and interests (User profiling) Expose diversity of people and point of views in the debate Use Gamification approaches as motivators to contribute.
Pain point 7: poor idea evaluation  How do we move from idea generation to effective idea selection?  How can we support idea evaluation?	Allow differential voting (contributions rating and ranking) Allow comparative and iterative voting, rather than one-off voting, to support idea negotiation, refinement and consensus building (see i.e "Vilfredo goes to Athens" tool) Favor objection making and argumentation to simple voting in order to expose the "why" for people choices. Promote voting on abstraction before allowing voting on the details Use analytics to support idea selection and evaluation. Encourage piloting of ideas in real world context or simulation environments	Allow finer grained voting systems such as differential and comparative voting (Ranking), iterative voting, reflective voting or voting "with rationale" (Support/Rejection)  Use discourse, social, topical, temporal analytics to support idea selection and evaluation  Design mechanisms and processes for idea piloting and testing
Pain point 8: lack of innovation  What mechanisms, tools and processes could be used to enable group creativity in an online environment?	Surface discussions/ questions to outside groups or disciplines (people not directly involved in the discussion) Ask users to provide both pro and con of their ideas. Use random prompts/red herrings such as in the "Oblique Strategy Cards". These consist of phrases or cryptic remarks that can be used to break a creative deadlock or dilemma situation. Allow anonymous contribution in some cases in which anonymity can help freedom of ideas and speech Allow non-text based contribution (i.e images, videos or audio) Set up creative competitions and games Make sure to cover and present a rich variety of viewpoints to stimulate creative thinking	Support dissemination mechanism and internationalisation of both tools and content in order to surface discussion and findings outside the community and promote cross community pollination of ideas.  Mechanisms to promote critical thinking to help people reflect on opposite points of view and on the cons of their ideas.  Creative competition and Games as motivations to contribute with innovative ideas.  Allow multimedia contribution to the debate, not only textual but also image videos and audio contributions.  Promote idea discovery
Pain point 9: non representative decisions  How can we ensure that points that suit everyone can be developed?  Or at the very least, how can we ensure that ideas that are selected represent the most of the community, without breaking the boundaries of what is unacceptable for some?	Not rejecting any idea but allowing divergent and convergent phases of rich ideas generation and then ideas ranking, evaluation and selection. Analytics of stakeholders can help identify people who can help negotiation and conflict mitigation. Diversity of participants should be a requirement of healthy and democratic discussions. Promote variation of sub-groups across time and allow remix and rediscussion. Allow ideas to "emerge" (bottom up approach to idea selection)	Do not allow system or admin idea deletion Social network analytics to identify key players, discover coalition/conflict relationships between participants Mechanism of user profiling to allow diversity of participants within discussions Promote remix and rediscuss processes within the group



#### Pain point 10: poor commitment to action

How do we engage enthusiast/motivated audiences to translate the emerging trends and patterns into concrete actions to lead to further change?

- Use pledging: gathering of users statements: "if this happens I will do this", as commitment to action mechanisms.
- $\bullet$  Gamification and competition to test out ideas in the real world
- Organising face-to-face meetings can be motivating, supports socialising and makes virtual & physical connections between participants
- Profit and incentives can support commitment to action; these can be implemented by building reputation indicators for jobs and stakeholders
- Argument maps might shed light on the reasons behind successful/failures of real world initiatives
- Pledging system as commitment to action mechanism
- Blended interaction process to support socialisation
   Blended interaction to support socialisation and connection making
- Reputation systems, which lead to prize or profit, to motivate participants to action
- Promote: love-fun and profit dynamics as main motivators to collective action
- Argument maps as feasibility checkers to discuss about the potential impact of real world initiatives.

Table 3 - Possible ways to answer the Pain Point and Open Questions in high-level system requirements for largescale deliberation platform for Collective Intelligence and Social Innovation



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## Annex 1 - Community Partners Platform wish list

As a parallel exercise the community partners have started a collaborative document production in which they have build a common wish list of features for the Catalyst's CI platform.

This will be used to inform the following phases of lower level system requirements.

We attach the list in annex:

Functionalities are divided into high-level user stories based on the 2 or 3 different user types.

#### As a platform general/public user:

I can easily navigate and learn the interface

I can create new discussion topics

I can post new ideas (under each topic)

I can comment on, discuss, and contest existing ideas, arguments, and summaries

I can rate (like/dislike, 1-5 scale, etc.) an existing idea or comment

I can highlight ideas that need attention from others

I can sort ideas based on different parameters (latest ideas, most popular, needs attention, etc.)

I can receive recognition (badges, "dashboard," etc.) that demonstrates to other users the quality or quantity of my contributions

I have access to a "wizard" or "guide" that helps me enter my contributions in the correct/logical format.

I can flag content that may be inappropriate for moderation.

I can share content from the platform with my friends on social media (Facebook, Twitter, etc.) - 2 way integration: discussions on Facebook get fed back to the platform

I can contribute to decision-making, i.e. vote on options

I can sign on to a daily, weekly, or monthly email update of new content posted in the topics of my interest

I can refer to external sources (literature, videos, other platforms, discussions happening on other websites) and this is displayed attractively (not just a link)

I can understand complex or long discussions easily e.g. by seeing a argument map, visualisation or content icons

I have the chance to match make my skills with someone's needs

I can search for specific skills, offers etc. also in my area (map integration)

I can block certain user comments

I want to use some of the features above in a live chat

#### As a harvester/community manager:

I have access to a "wizard" that helps me synthesise and summarise the discussion for each topic faster than if I did it without the tool.

I can post this synthesis/summary for public users to see

I can post a translation of the above synthesis/summary in another language

I can see a "dashboard" of analytics that shows me trends and patterns in the discussion. For example:

I can see which discussions need more attention.

I can see who is dominating the conversation and who isn't participating

I can easily visualise (i.e. not just numbers, but charts and graphs, infographics) the information in the dashboard described above.

I can share these visualisations described above with members of the public

I can moderate (edit/delete) inappropriate posts by public users.

I can more easily understand which users are highly active and which topics are relevant to them

I can support matchmaking, by easily seeing who would still need some answer

I can create a summary of opinions and request to post this to policy makers etc.

## As a community partner staff member:



I am able to customise the publicly-facing interface with my organisation/campaign's visual brand identity (logos, colors, typography, etc.)

I have access to a control group of users so I can compare the relative effectiveness of the new tools we develop. I am able to understand the system and handle it without having an IT background:)



## **Useful Links**

- Link to the Flashmeeting Replay if you used FM for virtual participation

The Euclid workshop has been recorded: the link can be found here http://oufm.open.ac.uk/fm/bc540f-4749

Link to the Immagination for People Workshop - Flashmeeting: <a href="http://fm-openlearn.open.ac.uk/fm/flashmeeting.php?pwd=0e36f4-20895">https://fm-openlearn.open.ac.uk/fm/flashmeeting.php?pwd=0e36f4-20895</a> and We have some collective meeting notes - English transation of the key parts of the meeting: <a href="https://docs.google.com/document/d/18vfeC6L5NEFwDzWJzM1w9Qa-eTdjDeD0i-okSWDsC">https://docs.google.com/document/d/18vfeC6L5NEFwDzWJzM1w9Qa-eTdjDeD0i-okSWDsC</a> dE/edit

- Interesting Community website and related online technologies to explore:

https://www.yrpri.org/home/world

http://www.ushahidi.com/uploads/docs/SwiftRiver 1-Pager.pdf

http://www.reddit.com/

http://www.utopia.de/

Notes: "Pressure Cooker" uses Facebook comments http://paneladepressao.org.br/

https://www.parlement-et-citoyens.fr/

http://www.sharelex.org/

www.vision2050.net

Gamification: https://www.greenapes.com/en

Condorcet voting, Binary voting, fungible voting: http://yeswiki.net/wakka.php?wiki=Convergence, http://colorvote.com/

Groupmap (http://app.groupmap.com.au/): A little application that allows having a visualisation in the form of a heuristic map.

Talkmap (http://www.talk-map.com/) Similar, with the adition of allowing moderation by reconfiguring maps

Compendium has a good typology of links between ideas.

Microsoft Word summary generator There was a functionality (now gone) in Microsoft Word to generate a summary of a document. I used fairly often on long documents to see what the software would pick that is intelligent. The nice thing about it is that you could as for a summary that is 4 lines, 10 lines, half the document, etc.

Slashdot's (http://slashdot.org/) Their past approach where comments were collectively rated from 1 to 5, and you could pick the minimal level of comment to read. By default, no one saw everything unless they wanted to. This was discussed at some length in the workshop.

Succeed Together http://www.succeed-together.eu/en/ A company that is creating a semantic engine allowing groups



of 500 to 3000 persons to answer questions qualitatively, and the engine in real-time crunches the answers and produces results that are at first glance very good. The weakness is that one still need humans to detect weak signals. They want to Open-Source it, but are having trouble doing so.

Metapaps http://metamaps.cc/ Another interesting tool for visualisation.