Initial SESERV Survey Results (May-11) Challenge 1 Projects Socio-Economic Priorities

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Table of Contents

1 Socio-economic priorities in Challenge 1

This short report discusses some of the results from a recent survey[1] of Challenge 1 projects[2]. The survey aimed to provide a quick check of the current socio-economic priorities in EC Future Internet research so that discussion and debate can be targeted on the issues that matter and where opportunity exists for greater engagement, discussion and knowledge transfer.
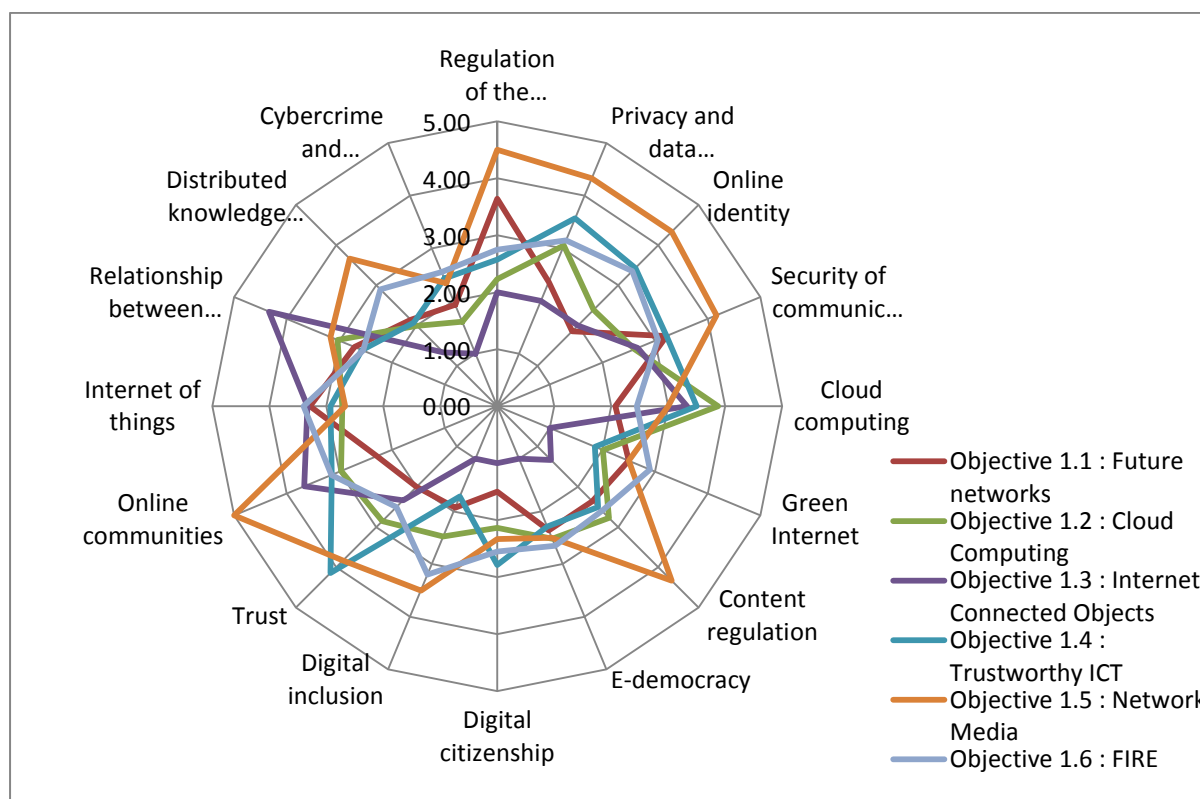

Figure 1: Radar plot of responses (5="*Absolutely relevant*" and 1="*Not relevant*") by challenge 1 objectives

While planning a workshop on *The Social Nature of Technical Choices*[3]*,* a significant number of FP7 projects were asked to rate the importance socio-economic topics. The topics were taken from those highlighted in the recent report *Towards a Future Internet*[4] and included areas such as the *Regulation of the Internet*, *Trust*, *Digital Citizenship* and *Cybercrime.* Respondents of the online questionnaire were asked to rate them on a five-point subjective scale from "Not Relevant" through to "Absolutely relevant, a key issue", and to rank the top five most important topics in their view. Both the relevance questions and the ranking provided useful input for the coverage of the forthcoming workshop. However, leaving aside the ranking information for now, the topic relevance questions provide useful indications of how to and where to engage the Projects in socio-economic issues.

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[1] http://www.seserv.org/fise-conversation/seservsocio-economicssurvey
[2] Challenge 1: Pervasive and Trusted Network and Service Infrastructures: http://cordis.europa.eu/fp7/ict/programme/challenge1_en.html
[3] http://www.seserv.org/fise-conversation/seservworkshopbuildingthefutureinternetthesocialnatureoftechnicalchoices
[4] http://www.seserv.org/Studying-the-Future-Internet/towardsafutureinternetreport

Figure 1 shows the responses[5] of the objectives in challenge 1:

- Obj 1.1: The network of the future

- Obj 1.2: Service and software architectures, infrastructures & engineering

- Obj 1.3: Internet of Things and Future Internet Enterprise Systems

- Obj 1.4: Secure, dependable and trusted infrastructures

- Obj 1.5: Networked media

- Obj 1.6: New Paradigms and Experimental Facilities

2   Analysis

A number of different conclusions are possible; and it would be informative to return to those projects in a couple of years and review their thinking at that time. For now, though, consider the following general trends taking a response around 2.5 as a significance level:

- Some topics which seem to be of little importance to any of the Challenge 1 projects including *Green Internet, e-Democracy, Digital Citizenship and Cybercrime and cyberlaw*
- *Privacy and data protection, Online identity* and *Security of communications* are of most concern to Obj 1.5 and to some degree Obj 1.4
- *Content regulation* and *Distributed knowledge production* is only of interest to Obj 1.5 Media. *Content regulation* helps individuals and companies protect value in their assets but this sort of regulation is not directly the concern of network operators (Obj 1.1).
- *Relationship between consumers and suppliers online* is a major interest for Obj 1.3 meaning they see online connection in commercial terms in addition to a strong relationship with *Online communities*;
- *Internet of Things* attracts little interest even from Obj 1.3

As with many aspects of the Future Internet there are relationships between the topics for example *trust to digital citizenship* and *privacy to cybercrime*. What is interesting is that when topics are posed in terms of socio-economic thinking or as they are posed by policy makers in the Digital Agenda[6] (Green Internet, e-Democracy, Digital Citizenship, etc.) there is an apparent lack of interest from projects although related technical mechanisms are often rated highly. This suggests a need to engage projects in the digital agenda to provide a better understanding of the relationship between Future Internet research and socio-economic priorities.

Considering results from the perspective of each objective raise interesting questions:

- Obj 1.1: does not express a strong interest apart from the regulation of the internet and the internet of things. Does this suggest that network researchers are still thinking that what

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[5] Responses were averaged by project where more than one respondent from each project replied. Projects were then grouped by Challenge 1 objective, and then those responses averaged.
[6] Digital Agenda: http://ec.europa.eu/information_society/digital-agenda/index_en.htm

people do with the network is not their concern and any attempts to increase responsibility and accountability is perceived as a threat? Are they focusing on protecting the value of packet transmission and thereby missing the huge potential of *Online Communities* and the mechanisms of connection with *Internet of Things* (IoT)?

- Obj 1.2: does not express a strong interest apart from cloud computing. Does the focus on virtualisation technologies mean that services are missing opportunities within communities and real-world internet?

- Obj 1.3: expresses strong interest in the *relationship between suppliers and consumers*, *online communities* and *clouds*. Does this mean that IoT is looking for new values and business models that connect providers, consumers within online and real-world communities? Does the explosion of data from billions of sensors provide new challenges for cloud computing? Why is *regulation of the internet* not a concern for researchers whose technology will change the perception of how people see themselves and the environment?

- Obj 1.4: expresses strong interest in Cloud computing. Does this suggest that the current focus is how to exploit the benefits of clouds in new applications that require greater levels of trust, security and privacy?

- Obj 1.5: expresses strong interests in many of the topics. Obj 1.5 has higher levels of societal and individual citizen engagement through focus on networked but also social media. Does this mean that media is interested in legal rather than technical solutions to protect the interests of individuals and companies? Do they recognise the potential for using *online communities* for *distributed knowledge production?*

- Obj 1.6: FIRE does not have a strong opinion about any of the topics. Does this suggest that the breadth of topics covered by FIRE means it has only weak interests in everything?

3   Engagement Opportunities

The results have highlighted the following opportunities and challenges in coordinating issues in the community:

- *Raising awareness of implications*:

  For topics where projects show little concern, engagement with experts within various fields relevant to those areas will show the relevance. The Digital and Green Agendas for instance are important and awareness needs to be increased. Similarly, the implications of Cybercrime and what the effects of cyber legislation may be will affect what the FI delivers and how it needs to be structured.

- *Emphasising opportunities*:

  How social, collaborative networks can be exploited as a natural and comfortable method for engagement as well as commerce, fits well with many projects, though is not well

represented. There are benefits to present these opportunities and how they are relevant to Future Internet research now and in the future.

- *Enabling discussion on current and known issues*:

  The concerns on content regulation as well as privacy. These issues are often understood in terms of legislation but this is not always the case as incentives can regulate behaviour and trust has a huge impact on privacy. SESERV has already begun to make the community aware of different aspects of trust and privacy as reflected in online social engagement. This is a real opportunity to encourage discussion around these issues.

4 Appendix

Survey question

The following social and economic topics have been identified by several reports as key issue for the Future Internet.

For each item, please indicate how relevant this issue is to the project you listed above. In other words, how relevant is each issue for the technology you are developing or the research you are undertaking?

Survey topics

Regulation of the Internet

Privacy and data protection, including user data, file-sharing control, selling of personal information, etc.

Online Identity, including anonymity, digital presence, rights to delete information, etc.

Security of communications, including legal implications

Cloud computing, including the risks and benefits of virtual access to information, etc

Green Internet issues, including reducing the carbon footprint of the ICT sector, e-waste, etc

Content regulation, including copyright, licenses, open access, etc

E-democracy, including transparency, open government data, empowered citizenship, services to citizens, etc

Digital citizenship, including individual and corporate rights and responsibilities, etc

Digital inclusion, including access and use of Internet by vulnerable populations, etc

Trust, including risk drivers, actors at risk, risk management, etc

Online communities, including social networks, virtual relationships, etc

Internet of things, and the connections between people and devices

Relationships between consumers and suppliers online

Distributed knowledge production, including e-science, e-learning, etc

Cybercrime and Cyberlaw, including phishing, cracking, cyber terrorism, etc

Possible answers

Response	Value
Absolutely relevant, a key issue	5
Relevant and important	4
Moderately relevant, but not key	3
Only somewhat relevant	2
Not relevant	1

Projects polled within each Objective

Objective	N
1.1	7
1.2	11
1.3	3
1.4	7
1.5	2
1.6	4