

## Answer to Referee 1

*A first, general consideration is that the data collected are not discussed within a reference framework, and this makes them difficult to read: is the obtained number of visualisations high or low?*

We added in the text the results of Bowman et al. (2015) that reported about 800 users reached thanks to their Facebook Page of students of Society of Environmental Toxicology and Chemistry (our results showed on average 1042 reached day<sup>-1</sup>) (p.6, lines 1-5). As far as we are aware, this is the sole reference available in literature that we can use to compare our results.

*How does this compare to the number of people that could be reached in a more traditional way (for instance with a press release providing information on the same scientific content)?*

We reckon that this could be a most interesting area of investigation and we have taken on board the referee's suggestion for future research. However, the present study focused only on scientific communication by web and we lack comparable data for traditional dissemination activities.

*How did the website perform compared to other science blogs or online magazines?*

Unfortunately, data on visualizations of articles published within on-line magazines in 2013 (the year considered in our study) are not yet available.

*Did you engage the sector of population you were aiming for?*

We involved general public from Campania that was our target (p.3 lines 20-21) . The target population has been reached as indicated by Demographic data (p. 5 lines 26-31).

*I think that the manuscript would be much stronger if the objectives of the outreach experiments were clearly stated up front.*

SUstaiNability was targeted for Campania citizens not involved in institutional formative activities, in particular from the Caserta district. We have now more clearly stated this in the Introduction (as added in p. 3, lines 18-22).

*A second concern is the use the term Web 2.0. In my understanding, this word indicates web applications where the content is generated by the users, or there is a strong degree of interaction between the creators of the contents and users. This does not seem to be the case of this website, that is organised more as a one-way communication directed from the scientific community toward the public. It would be very interesting to know if there were comments or reactions to the articles that were posted, and if there is the possibility for the users to pose specific questions to the experts or to solicit specific themes for future posts. Can you comment on this aspect?*

Indeed, the future of web-mediated scientific dissemination is in interactive communication between the public and scientists. Therefore, besides getting access to contents directly provided by the scientific community, web users have the possibility to contact the authors by e-mail and request explanations and further articles (as specified on p.4 lines 9-12). In SUstaiNability account/page on social media there were some comments related to post presenting website articles, but in the form visualized by Facebook page administrator these comments did not require specific answers. Therefore, we did not focus on this aspect. We did

not monitor the e-mails sent to reference researcher, because these could not be distinguished from messages sent by other people that contacted the experts.

*In the following, some minor comments. I believe that when dealing with science outreach the English word that is used is “dissemination”, not “divulgation”.*

We have substituted “dissemination” for “divulgation” throughout the text.

*The initial analysis of the various ways in which scientific contents are disseminated does not include consider popular scientific magazines that target the general public (for Italy, I’m thinking of Le Scienze, Darwin, Focus...). I think these probably play a role. Can you comment on that?*

It is true that scientific magazines reach general public, but these are only bought by people strongly interested in scientific issues even if they are not professional scientists (as clarified on p. 1, lines 28 –30). On the contrary, we think that the web can also reach people with no direct interest in science but attentive to the effects of scientific discoveries. It is significant that even popular science magazines have a web page (as we specified at p. 2 line 12).

*Page 2, Line 31: unfortunately, this is not true: social psychologists have shown that informed citizens do not necessarily behave more responsibly: we’re not always rational in our decision making.*

We agree, but probably uninformed citizens could have behaviors even less responsible than informed citizens. Moreover, effective science dissemination is likely to favor the development of responsible behaviors.

*Page 4 Line 2: you name “reviewer” who I believe is the author of the post. I think the word “reviewer” in this context may be misleading*

We agree. We have substituted the term “reference researcher” for “reviewer” throughout the manuscript.

*Page 4 Line 15: the web site performance has been monitored for 2 months. How was this time period established? Does it ensure the collection of a representative sample?*

Since we decided to use Facebook insight to collect data, time period used in this study to monitor each article corresponds to that used by Facebook insight, in 2013, to monitor a post activity, i.e. 28 days. Since we published all articles in about one month, the whole monitoring activity for all articles lasted two months (table 1). Considering that communication through social networks is very fast, we think that the sample collected in the chosen time period was a representative one.

*Page 6 Line 16 The thematic areas of your articles are not equally distributed, with only two posts on natural hazards and 6 on pollution. I do not question that pollution is a bigger worry in this area than natural hazard, but I do not think that you have enough data to make an objective statement on this. You may write that this outcome is consistent with previous findings on people’s concerns in this region.*

We agree. As now clearly stated in the text (p. 4, lines 14-16), we reviewed all publications available at that time (only two of which concerning natural hazard) and we did not have the

same number of articles for all thematic area. The suggested sentence has been inserted on p.6, lines-29-33.

*Page 7 Line 21. See above.*

The question concerning Web 2.0 has already been answered above.

## Answer to Referee 2

*The authors stress out that researchers should be actively involved in science out- reach. It would be important to specify to what degree researchers involvement is suited and it should be discussed if this promotional activity is compatible with scientists' research agenda and objectives. This is a sensitive topic that deserves a thorough analysis of what are the advantages and disadvantages of replacing professional mediators (such as journalists, museum curators, or communication executives) with scientists in science outreach activities.*

The issue is certainly of great interest, but it is beyond the scope of the present work. As specified on p. 2 lines 4-7, Italian Ministerial decree 47/2013 recognized scientific and cultural dissemination, in addition to research and teaching, as a fundamental mission of Universities. We do not believe that researchers should replace professional mediators, but we feel that a closer link between scientists and society would be helpful.

*p.1 l.9: the notion of "participatory journalism" has specific meaning and implications; it would be preferable to not refer to this concept in the abstract since the authors don't mention and discuss it in the rest of the paper;*

We removed "participatory Journalism" from abstract.

*The following statement needs to be clarified and justified or nuance should be added to it: "Science communication purpose is dissemination of scientific culture to general public without any educational intent.";*

We clarified that the purpose of Science communication is reaching all the people independently of institutional formative activities (at school, University, etc.) (see p.1 lines 18-19).

*p.2 l. 12-14 This statement should be supported with relevant data and it should be specified what corresponds to a "sufficiently clear and correct" form according to the authors.*

We specified what we mean for "sufficiently clear and correct form". The information could be unclear, incomplete, or even completely wrong. (See p. 2 lines 16-18).

*p.3 l.30: The authors should clearly define what they mean by "average education";*

We substituted "people with average education" with "people without a specific scientific education (i.e. that learned in middle/high school)." (see p. 4 lines 4-6).

*p.3 l.30 – p.4 l.1: The news writing approach described here corresponds to some of the basic principles of journalistic writing. It would be preferable to mention it.*

We added that web articles were written in according to basic principles of journalistic writing (p. 4 line 6).

*p.5 l.32 – p.6 l.1: This statement should be supported with stronger arguments;*

We clarified that the website page design (i.e. social media share buttons located at the bottom of the text) suggested that the website users shared article after they had read it (p. 6 lines 12-13). Unfortunately, we do not have any further data to support this inference.

*p.6 l.30-33: Other possible explanations should be considered, for example the fact that older articles have been circulating for longer time on Web search engines (e.g. Google search) and social networks;*

We agree and added this consideration on p.7 lines 8-9.

*p.7 l.5-7: It would be relevant to develop a hypothesis to explain this web users' behaviour;*

As specified in p. 7 lines 14-16, we think that users showed strong interest in topics which determine concerns about human health or environmental issues that impact on local economy.

*A channel of communication can be considered "effective" in relation to specific communication goals: it would be relevant to make more explicit the communication objectives of the website, to explain how social networks support the achievement of these goals, and to clarify which data support this statement;*

The communication objective is now more clearly stated in Introduction section (p.3, lines 19-21). To verify goal reaching we used specific tools (Facebook Insight for Facebook; Bitly for Twitter) (p.3 lines 22-24; p. 4 lines 25-27). Demographic data obtained with these tools confirmed the goal reaching (see p. 5 lines 26-31).

*this kind of websites are widespread worldwide, it is essential to clarify what is innovative in the website [www.sunability.unina2.it](http://www.sunability.unina2.it).*

The innovation of [www.sunability.unina2.it](http://www.sunability.unina2.it) is to create a direct dialogue between academics and people living in the territory where the University is established. We do not know websites in which scientific articles concerning a specific place and published on peer reviewed journals have been transformed by the same authors in dissemination articles addressed to the people living in that place. We added some clarification in p. 3 lines 15-17; p. 8 lines 2-4.

*Technical corrections*

*p.1 l.11: there should be the article "the" before "Second University of Naples"; articles are frequently missing all along the paper.*

We acknowledged the referee correction and added the missing articles throughout the text.

*p.1 l.19: there should be the article "the" before "general public";*

done

*p.2 l.14: "in a form sufficiently clear and correct" should be replaced with "in a sufficiently clear and correct form";*

We acknowledged the referee correction and rewrite the phrase (p.2 lines 14-17).

*p.2 l.20: “among” should replace “between” after “interactions”;*

We rewrite the phrase p.2 lines 23-25.

*p.3 l.12: “through” should replace “by” before “social networks”;*

We substituted the words (p.3 line 18).

*p.3 l.14 “location” should replace “convenience”;*

We changed the entire phrase (p.3 lines 20-21).

*p.3 l.19 “located” should replace “collocated”;*

We uses “hosted” instead of collocated (p.3 line 28).

*p.3 l.22 “includes” should replace “included”;*

The sentence has been modified (p. 3, lines 29-30).

*p.4 l.3 “social media buttons were available” should replace “showed social media buttons”;*

We substituted the expression (p.4 lines 11-13).

*p.4 l.6: “published on” should replace “inserted”;*

We made the correction (p. 4 line 14).

*p.4 l.7: “published” should replace “inserted”;*

We made the substitution (p.4 line 16).

*p.4 l.7: “two other articles” should replace “other two articles”.*

We made the correction (p. 4 line 16).