citizen Heritage

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Policy brief with recommendations for HEI and CHIs managing Citizen Science projects

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Executive Summary

In this document, we want to translate results from the Erasmus+ project Citizen Heritage (2020-2023) to concise recommendations for policy developers and policymakers in the field of Cultural Heritage Institutions as well as teachers, program developers, and program directors in the field of Higher Education related to Cultural Heritage.

These policy recommendations reflect the results of several outputs of the CitizenHeritage project. The goal of that project was to explore which steps can/should be taken to level up the many crowdsourcing and citizen engagement initiatives in the sector towards true citizen science contributions, in which these contributions would receive due academic credit.

This brief details the following approach, identifies the key players, and lists key recommendations.

1. Approach

The CitizenHeritage policy brief intends to provide a set of recommendations to support

1) the transition to public contribution (or crowdsourcing) models that respect the principles of Citizen (and Open) Science;
2) the collaboration between cultural heritage institutions and the education sector;

In relation to the latter, the ultimate goal is to encourage stronger cooperation between the two sectors in order to provide future professionals in the cultural field with the right tools for the implementation of more *citizen-friendly* actions and employment in their future professional careers of methods that prioritize the application of open science principles.

This policy brief is based on the research carried on in the context of the CitizenHeritage research and of the multiple activities (such as workshops, conversations with experts/professionals as well as with the public, co-creation and collaboration activities, etc.) organised during the period of the project.

The adoption of crowdsourcing activities for the enrichment of digital -and not- collections, is a practice that is currently gaining priority in the institutional agendas. Not only big cultural heritage institutions but also medium and small organizations are beginning to recognize the potential benefits of allowing the public to interact with their collections and perhaps even contribute to their enrichment. However, there is still ambiguity over the proper methods and procedures of their involvement as well as the proper methods for the acknowledgement of public contributions.

This is particularly the case for the cultural heritage sector, where the citizen's involvement is motivated by personal or affinity with a collection or with what it historically, culturally, or artistically represents. Often a relationship between the public and the collection is created that goes beyond information consumption. This raises questions not only about the planning strategies of such collaboration initiatives -whether they are online or in person- or the methods for communicating effectively with future contributors, but also about the acknowledgement and respect of the contributors' rights and participation -especially the initiative’s results are published.

2. Key groups

This policy brief is directed to two main groups essential for the contribution of the development and dissemination of Citizen Science methodologies in the cultural heritage field:

- **(Medium or small) Cultural Heritage Institutions** that are involved in initiatives that encompass direct public engagement with their collection and/or the adoption of crowdsourcing approaches.
- **Higher Education Institutions** and academics/students working/ studying in cultural heritage, cultural studies, digital humanities, museum/archival studies, etc.

These sets of recommendations are intended to be applied at a local, national, and European level and have the main purpose of supporting cultural and educational institutions in transitioning towards a more inclusive, participatory, and contributors- as well as knowledge-oriented application of crowdsourcing methods.

3. Recommendations

3.1 Include Citizen Science as part of your CH strategy and workflow

There are very strong reasons why heritage institutions should take on board citizen input. Many of the collection objects cannot be correctly identified and/or contextualised without consultation of the communities among which these objects obtained their meaning. While many heritage institutions have scientifically trained staff, it is often hard to cover all relevant disciplines. Beyond this, the embedded knowledge among practitioners can be elusive to researchers and archivists alike. Community awareness should therefore be a key driver for heritage institutional leadership.

3.2 Acknowledge citizen scientists & their contributions

Heritage cannot exist without a supporting community of people who value its contents. It is by nature a public good. While many enthusiasts contribute to the care for heritage through a flurry of crowd engagement and crowdsourcing initiatives, their work is not always recognized, and taken for granted.

Changing social demographics, however, means that the connection between heritage and contributing communities is no longer a given. For the sake of long-term preservation, it is essential to make sure new

audiences feel appealed to contribute to the custodianship and safeguard of the heritage in their environment. This also entails giving new meanings and purpose to the heritage.

In particular, heritage crowdsourcing, when adequately conceived, can be a powerful tool for cultural reappropriation by a diversity of communities and stakeholders.

Recommendation: while preparing a Citizen Science activity, start with a good understanding of the relevant underlying social relations, the community stakeholders, and the possible multiversity of meanings involved. Make sure people who contribute are **recognized** for their work, are named if they wish so, or are **protected in anonymity** if this is important to them.

3.3 Know your audience

This means it always starts with a good analysis of the audience. For larger institutions, when a crowdsourcing action is conceived in a cataloguing department, make sure to connect to the audience development and/or communications team. Who are you going to address with what appropriate language? Is the heritage in question contested? How will your project navigate the divergence of vision? How will different stakeholder groups be represented?

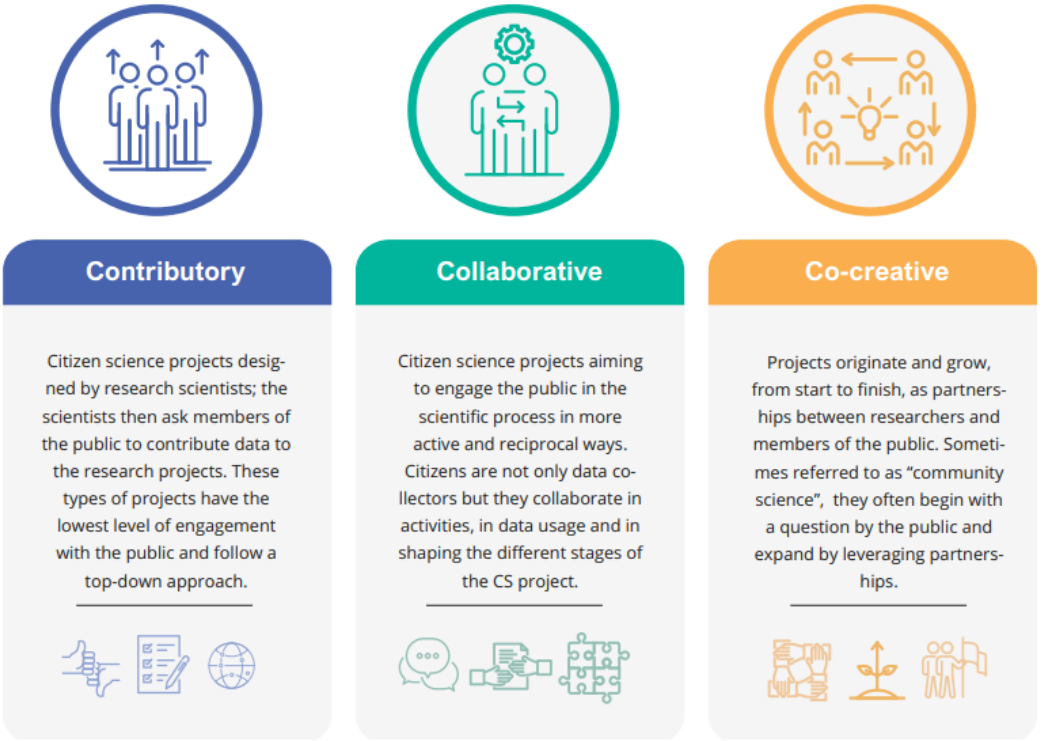
Before conceiving of a “representative sample”, one needs to think about “representation”. A representative group might not be the same as a randomized sample. Make sure that the decisions made to select/encourage contributions are well explained in the project documentation: why did you choose for an open call, or why did you work with selected contributors, and on what basis? The better these decisions are documented, the higher their scientific value.

Even if your action is quite large and is a call to an unknown anonymous audience, it is good practice to get some input on who is contributing and why. Offering possibilities to become a “member” of the action or to obtain a kind of “badges” depending on the intensity of the contribution will not necessarily give you statistically relevant audience information, but it will certainly respond to a keen interest of the public and give them a sense of belonging. It can also form the basis for building deeper relations with a more proactive segment of the participants.

This is why it is also important to follow up with the audience. This can be achieved by publishing an overview of the results of the action online, or by sending a follow-up message to those who left their contact information. This can then be used e.g. to asses how they feel about the general results, and if they have suggestions for follow-up actions.

3.4 Methodological considerations

- **Choose a good format**[1]
  - In our project, we gathered a series of best practices of possible formats for Citizen Science in Heritage studies (see report O1). Bonney et al. 2019 make a distinction between 3 levels of Civic Engagement in Citizen Science projects:
    - **Contributory** - In this case Citizen Science project is designed and carried on by the scientists. Contributory projects have the lowest level of engagement with the public and follow a top-down approach.
    - **Collaborative** - These types of projects generally ask for a higher collaboration of the public during the scientific process through cooperation in activities such as data collection, the shaping of the Citizen Science project, etc.
    - **Co-creative -** This is the most community-engaged type of project since through this approach, Citizen Science initiatives originate and grow on the basis of mutual support and cooperation between researchers and the public.



[1] Zourou, Katerina, & Ziku, Mariana. (2022). Citizen Enhanced Open Science in Cultural Heritage - Review and analysis of practices in Higher Education. Zenodo. https://doi.org/10.5281/zenodo.7221794

- **Respect FAIR Data principles**
  - Following the Principles of Fair Open Access is highly recommended in Citizen Science actions. This means the results should be Findable, Accessible, Interoperable, and Reusable. The FAIRness of cultural heritage-related citizen science practices can be measured against the 20 guidelines of PARTHENOS (Hollander et al., 2018), which include the following elements.[2]

FOR "FINDABLE" DATA:

- use persistent identifiers for datasets
- use persistent identifiers for authors
- cite research data
- choose a standardised metadata schema

FOR "ACCESSIBLE" DATA:

- save dataset on a trustworthy repository
- opt for open-access for data or, if not possible, for metadata
- if data cannot be accessed (data embargo) include a description of the dataset
- use standardised exchange protocols (OAI-PMH, XML, RDF)

FOR "INTEROPERABLE" DATA:

- provide machine-actionable APIs
- use well-defined vocabularies relevant to the discipline
- structure data based on interoperable standards
- enrich and clean metadata through automated processes

FOR "REUSABLE" DATA:

- document and describe data systematically (cf. gaps, method, naming conventions)
- use established, open file formats that can stand long-term
- maintain data integrity by applying version control for new versions of released data
- licence the data for reuse preferably through open licences

- **Openness in Citizen Science**
  - Another important dimension of citizen science concerns the connection between citizen and open science, the re-use potential of data resulting from citizen science projects. This entails the public availability of citizen science project data and meta-data are made publicly available and the publishing of the project results in an open-access format.

[2] Zourou, Katerina, & Ziku, Mariana. (2022). Citizen Enhanced Open Science in Cultural Heritage - Review and analysis of practices in Higher Education. Zenodo. https://doi.org/10.5281/zenodo.7221794

- **Transparency in data ownership**
    - Full transparency of data ownership (unless restrictions about privacy apply) is important in citizen science projects. The aims and intentions of citizen science projects and the research they involve should be communicated clearly and openly with participants and other stakeholders. If involvement is consensual and fully understood by participants, it may be considered citizen science. Special attention needs to be paid to transparency in the community- or self-initiated projects that operate outside of organisational ethical practices. In any case, all actors must adhere to a code of research integrity and quality issues when they participate in an initiative.

- **Accessible Terminology**[3]
    - The use of different **terminologies** (such as Citizen Science, crowdsourcing, co-creation, etc.) for the definition of Citizen Science approaches such as *user participation, crowdsourcing, niche-sourcing, co-creation,* etc. might possibly have a misleading effect not only on the institutions that are willing to open up and enrich their collection by using the help of their audience but also on the contributors itself which might be confused on the type of initiative they will be involved in. Therefore it is crucial, when engaging with the audience, to be as **transparent** as possible regarding the nature of the action itself, the meaning, the objectives, and the expectations. These elements contribute to emphasizing the need for **standardization** of the terminology used at a European level when talking about Citizen Science activities.

- **Ensuring Inclusion**
    - Besides using transparent terminology for communicating with the community of contributors, it is also crucial to ensure the adoption of a set of terms that is not only clear but also inclusive and attentive. This must be a primary concern especially when underrepresented voices and minoritised communities are involved, as also advocated in the context of Words Matters, a collective publication of the National Museum of World Cultures (NMVW) addressing biased words in GLAMs collections.

[3] Pireddu, R., & Truyen, F. (2023). Report on Citizen Science methodologies and implementation strategies. Zenodo. https://doi.org/10.5281/zenodo.10012660

- **Network Building**
    - The power of community management is one of the elements at the basis of a successful citizen science initiative, although its value is often underestimated. Preparing the contributors for the task that they will have to undertake during the initiative by making necessary resources and training available, allows the participants and the organizers to engage with the task from the same reliable point of departure and to create harmony among the two groups. It is, in fact, essential to put an effort into the **unification** and **guidance** of the contributors.
- **Teaching your contributors**
    - It is important to keep in mind that participants in a citizen science initiative are not only interested in getting involved in a project but they are also expecting to learn and receive guidelines. Establishing some learning procedures to make this process smooth is not always beneficial for them but also for the quality of the result.
- **Recognize the value of your contributors**
    - User engagement value is an element that needs to be strongly recognized. Citizen Science actions should be in fact two-sided: the act of contributing should be paired with those of knowledge sharing and giving.

3.5 Include Citizen Science in your teaching[4]

- **Prepare future heritage professionals for community participation**
    - It is important that Higher Education institutions play their role in the development of Citizen Science for Heritage. Besides research activities, we recommend that study programs for the Heritage domain should include training in Citizen Science approaches. Since the training of professionals is costly and many Heritage institutions cannot afford to dedicate their current staff to sorting out these methods, it is important that future professionals learn about this during their study time.

[4] Dr. Valeria Morea, Dr. Trilce Navarrete, & Denise Martin. (2023). Benefits of taking part in CitizenHeritage. Zenodo. https://doi.org/10.5281/zenodo.8395050

- **Bridging the gap between CHIs and HEIs**
    - The connection between the education sector and cultural heritage institutions is often something that cannot be taken for granted. In fact, collaboration and participation between these two environments are sometimes hindered by the use of different approaches and methodologies. However, it is important to reduce the gap and pave the way for the creation of opportunities for knowledge exchange and co-creation. CHIs can learn from what is being discussed in academia and what are the latest research results. At the same time, HEIs can comprehend the obstacles institutions face daily.
- **Dissemination at a HEI level**
    - Cultural Science practices are still very little taken into account in the education domain. For this reason, it is essential to start disseminating and talking about Citizen Science as a practice that has a big potential in the education sector and not only in the GLAM environment.

3.6 Include Citizen Science in your platform

- **Ensure clear terms of participation, procedures regarding privacy issues and data retention**
    - The platform should ensure compliance with European GDPR regulations and include a situation-appropriate Data Protection Policy, that describes the specific personal data management provisions made by the platform, including the cookies policy, along with an outline of the rights of users (e.g. right to access, rectification, erasure, etc). The platform should also be transparent about what will/can happen to the data collected by participants, indicating the respective licenses and further allowed uses.

- **Make the collected data open**
    - It is of added-value if the results collected via the platform are made openly available and can be published to established platforms relevant to the particular sector so that they can have a broader impact and be reused by the research community.

- **Good UX design is a prerequisite but not a guarantee**
    - Prepare tasks that are in line with the intended audience's interests and are not cumbersome or boring. The fact that citizen science is not only fun but also entails (often repetitive) labor should not be overlooked. Adding collaborative and gamification elements to your platform can stimulate additional engagement and motivation. Therefore, adopting good practices for the platform’s UX design is very important, so as to ensure that it is useful, accessible, credible, and usable. However, no matter how well-designed the User Interface of a digital platform is, if the tasks are too time-consuming or difficult for participants to complete, their interest and engagement can be compromised. This is particularly so given that in citizen science settings, intrinsic motivation is the principal driving force for participation. Choosing tasks that are close to the interests of the intended target audience and assessing the required time for completing certain tasks in advance can help keep up engagement.