Extend(ed)ing work to get Academics the credit they deserve using the Wikimedia Impact Tracker

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Abstract

This research project continues the work of a previous research project "Developing Wikimedia Impact Metrics as a Sociotechnical Solution for Encouraging Funder and Academic Engagement". Whereas our previous project was about whether people want better ways to indicate their impact and what such a mechanism might look like, this project is about building upon the minimally viable product we developed during the last grant, with a core user group, a marketing/ recruitment survey, the development of particular user profiles, and piloting those user profiles in Year 2. Our previous research has demonstrated a strong desire in this direction, and this grant is about understanding and organizing to meet this need. Providing support to contributors is Strategy 1.1, and we believe providing professional credit in terms of impact metrics can be a key mechanism to recruiting contributors and helping funders track the impact of their grants on the Wikimedia platform and open knowledge in general.

Introduction

Wikimedia lacks engagement from scientists, and struggles to get taken seriously across professional contexts in general. The goal of this research grant is to understand this problem and how we can get Wikimedians more professional credit for their contributions, thus supporting e.g., [Wikimedia Strategy 2030](#)

Strategy 1: Increase the Sustainability of the movement, 1.1: Support Volunteers, 1.3: Increase Movement Awareness, 1.7: Revenue Generation for Movement, 2.0: Improve User Experience, 3: Provide Safety and Inclusion, 5: Coordinate Across Stakeholders, 6: Skills and Leadership Development, as well as 7: Innovating in Free Knowledge.

Our theory is that by helping Wikimedians present and get credit for the work they are doing, it will improve the community by bringing more people and resources, since volunteers will be able to get more professional credit for their work and scientific knowledge that is traditionally behind paywalls will become more accessible to marginalized communities (Buttliere, Vetter, & Ross, 2024; Zhang et al., 2022).

The survey that we did this last year showed that the most common way that Wikimedians report their impact to the decision makers in their organization is by word of mouth, that most Wikimedians were not getting any consistent credit for their work related to Wikimedia, and that their work for Wikimedia is not equal in terms of professional or financial credit as other projects (Buttliere, Vetter, & Ross, 2024). This is not sustainable for the movement and the goal is to help Wikimedians more systematically report their impact to decision makers and get credit for their work. In the long term, we help funders recognize the impact their grants as are (or could be) having in general.

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Our team is currently working on a tool which will help individuals better report their impacts across the Wikimedia Ecosystem, which will be implemented in the Programs and Events Dashboard as an 'individual' instance.

The goal of this grant is to expand upon this work, and make it even better, by actually hiring a young Wikimedian developer, and in general giving more sustained support for e.g., user testing and development.

The project focuses on recruiting high interest users matching our target user profiles, with the goal in the future to better serve individuals, universities and grant makers when tracking the impact of projects that they are funding.

The basic argument of the proposal is that Wikimedia is where people look for scientific information, and scientists want to make their science open, but scientists do not often engage with Wikimedia. This non-engagement also has implications for e.g., open knowledge because even if scientists make their work open, if it is not where people look for it or in language accessible to them, it is not truly open, or it is beyond paywalls.

We believe this strategy of developing engagement using impact metrics can be particularly effective in science because the system is already based on quantifiable metrics, which most people agree are broken.

Professionals act in too competitive of labor markets to work substantially as volunteers.
Our belief is that the Wikimedia community is in some way limited in terms of professional engagement because of a lack of incentives and recognition for WikiWork (Chen et al., 2023; Kincaid et al., 2021; Taraborelli et al., 2011; Jemielniak & Aibar, 2016; Konieczny, 2016).

Simply put, professionals act in too competitive of labor markets to work without getting (professional) credit for the work. It is ok to spend a few hours a month or week, but beyond one day a week it is simply unsustainable because your output that matters goes down.

Each time contributors spend on a Wikimedia project is time that they are not writing scientific papers or teaching courses for their university, serving patients at their hospital – and there are 100s of other people who are ready to do that work even better because they will not be doing Wiki work.

We believe this situation has also led to the high attrition of even the most seasoned and valued contributors, simply because e.g., they do not get tenure or otherwise struggle in getting the work that they are doing recognized. The goal of this project is to help Wikimedians get professional credit for their activities.

Getting high quality Wikimedia contributors credit for their work.
The goal of this project is to develop mechanisms of credit for contributing to Wikimedia, what we are calling Wikimedia Impact Metrics. These metrics will help individuals present the impact they are having with their contributions, and help funders to understand the impact their grantees are having.

Developing high quality metrics and making them available to bibliometric aggregators like ORCid will be instrumental in encouraging relevant systems of credibility for scientists and others interested in tracking the impact of the work they are doing on/ for Wikimedia.

Given that Wikimedia cannot actually pay or reward the people in an adequate way directly, the goal will be to create symbolic value, so that contributing to Wikimedia is valuable or at least

reportable as professional activity. <u>Thus, the mechanism of action that we are investigating</u> is to create high quality metrics and clout which can be valuable to academics. We believe the way to achieve this will be to create a tool that tracks individual contributions as a part of projects, which can then be summarized and given to funders as summaries of impact.

Practically helping people get funding for their work.
Aside from these strictly developmental activities on WikiMetrics, the project will continue to support the growing community that we have created around these metrics, which also resulted in submitting over 1 million euros worth of grants last year among 20 Wikimedian partners.

The ultimate goal is to further support and expand this work so that hopefully next year and the year after are 2 and millions more spread throughout the community.

Implementing and Creating the Wikimedia Impact Metrics.
The initial WikiResearch grant that we got funded the exploration and identification of which metrics Wikimedians want to see and report to their decision makers and funders, as well as quite a few suggestions of tools that are especially useful to the community members and some ideas about how their ideal tool might look/work. To this end we found that Wikimedians wanted most to show the number of students that were trained, the number of edits they made, particular notables like featured articles, and the number of views and citations of their work. This can also be because of the traditional emphasis in Wikimedia on recruiting new editors.

These metrics are built first for the researcher to show the impact they have in ways that decision makers will value. In a second and third use

case, we expect or hope to be able to allow universities or funders to track the activities that they are funding. For universities this would be across groups of people, for funding agencies across particular projects from those people. Already we have heard from users that the metrics need to be topic and time bound/ normalized, along with several potential problems with e.g., reverted edits, and for the P&E Dashboard in the classroom, the effects of selecting popular vs unpopular articles.

Impact Statement
The key research question of this project is how to support contributors (Wiki2030 Strategy 1.1) by getting them professional credit for the work they are doing for the Wikimedia Community. The Main mechanism of action that we are investigating is the creation of high quality and valuable impact metrics, which can help individual contributors better indicate their impact and e.g., funding agencies better track the impact of their grants and grantees.

Related work

Our team has been working in this direction for the last 2 years, and in fact we got a grant last year to do survey, user groups, and initial development of this tool. The main goals that we set out during the last grant included:

> **WP1:** Surveying key Wikimedians/ Decision makers on what metrics they value.
> **WP2:** Examining existing metrics, developing desired metrics, and presenting them for use.
> **WP3:** Developing a minimally viable version of the Wikimedia Impact Tracker for presentation.
> **WP4:** Presenting to relevant stakeholders, building a consortium, and submitting grants.

While these were quite optimistic goals for a 1 year project, we believe we managed quite good outcomes. We ran a survey and several user groups where we learned about how Wikimedians get credit for the work they are doing, and how they would like or could in theory get credit for the work they are doing. The last grant was also a major catalyst of community development work, which also resulted in several major grants including an EU COST Action grant (Buttliere, Pensa, Vetter, Rasberry, Mkrtchyan, Mietchen, et al., 2024).

The goal now is to build on the successes of this initial grant and to provide it with more sustained and substantial funding (Buttliere, Vetter, Ross, 2024). The successes we had suggest that someone should be doing this more fully, and so we suggest that we are the right people to do it, given that we have been doing it well so far.

Project and Events Dashboard, but for grants.
Our original idea was to build from the Projects and Events Dashboard, but we now see that the project needs more development and a consistent identity that is built specifically for research and decision makers who are not familiar with the Wikimedia interfaces and data.

The Projects and Events Dashboard was built to give educators and edit-a-thon organizers a high-level overview of their contributions, and also provide them with data for reporting mostly to Wikimedia. This also resulted in certain biases and ways of presenting information that do not track with academic decision makers or are non-optimal for users. Academics need something that is built for individual researchers and their specific events (e.g., papers, grants), and that universities and funders can track projects with.

Scholia, but in the opposite direction.
Another way to think about the project would be like Scholia, but in reverse. Scholia is built to bring academic profiles and records into the Wikimedia projects; the Wikimedia Impact Tracker is built to export Wikimedia related impact statistics to external decision makers and other aggregators like ORCid or Altmetrics.

This project is about exploring which metrics are needed, how they need to be packaged, and what typical sets of users will want to see in the tool. We believe that once funders see the many impacts that the grants can have immediately, they will see and be interested in using it.

Methods

This project is focused on examining the use of Wikimedia Impact Metrics as a sociotechnical solution to the problem of academic and professional engagement with Wikimedia. Our recent research projects have demonstrated quite convincingly that Wikimedians search for better and more systematic ways to report their work to decision makers (Buttliere, Vetter, & Ross, 2024).

The core methods we will be using to explore these topics are longitudinal experimental user groups providing quick feedback as we continue developing the Wikimedia Impact Tracker, a

, another marketing type survey, the creation of user profiles, and pilot testing use with particular stakeholding partners.

Each work package has a time estimate for the task, and with an estimation of the work that would be necessary to achieve the goal. This is also why we apply for more and 2 year funds.

WP1: Develop and maintain a core active user group, also to get feedback from them.

The goal of any software development project is to satisfy the needs of its users, especially in relation to their experience and needs. In this sense the mantra is to get feedback early and often (Altman, 2015). Work Package 1 identifies and engages 10 - 100 really engaged ideal users that we can essentially develop the tool in collaboration with. Our goal is to hold monthly calls with them to hear about their experiences, needs, and feedback on the project.

We will aim for a 10% improvement over each feedback period, meaning that it will get more than twice as good as the original draft will be over the course of the year.

Our target user groups, which we have already identified and engaged in past surveys and user groups, are the many professionals and academics/ scientists that are also Wikimedians and seeking ways to better track and report the impact they are having. These are people who will use it in their everyday lives for their work.

This is 2-3 days a week for the developer and 1-2 days a week for the other project partners. Each meeting needs to be planned, followed upon, emails need to be written, and relationships need to be developed. The work of the developer is frontloaded, and then in theory getting easier over the course of the project, with more of an optimization role after year 1.

WP2: Develop user profiles: One thing we keep hearing from potential collaborators and the Wikimedia team itself is to develop user profiles of who exactly will use the tool and what exactly they want. Thus, the goal of Work Package 2 is to work with some of these dedicated users to create specific personas or profiles of users and their use of the system, so that we can present them to stakeholders.

These users will be 'ideal' use cases, we can record some interviews with them, and create a profile especially as to how funders and universities could use the tool for their goals. Our intention is to develop user profiles and use cases for 3 types of users:
- researchers highlighting their impact,
- universities tracking employees,
- funders tracking sets of projects.

Each of these is a separate type of user that we would like to cater to and that we believe has interest in this work. Each of these stakeholder groups is also represented in the COST Action, and the goal will be to recruit them to the project and in general using the COST Action as a marketing tool for the Impact Tracker.

We are estimating approximately 1 month per user profile to go through some experiences, collect experiences, understand what the users want, and develop some representative data and understanding for each user group. The core user group is the individual tracking and presenting their own impact, but universities and funders need to be kept in mind.

WP3: Expand Recruitment and Feedback After Year 1, With A Marketing Cal and Survey.
At the end of the first year and after this development period, we will announce the tool publicly and seek continual feedback from the community on what needs to be improved.

This is a survey explicitly asking people to try the tool and provide feedback, as well as join the development group for the Tracker. In this sense, the survey is a way to advertise and market the tool to those that are most likely to need and use it. We will also use the survey as an opportunity to further expand the Wikimedia Research Persons database, the COST Action, and the Science Hub in general.

An up to standard survey takes at minimum several months to develop, curate a sample, analyze the data, and write the results up for a report. This estimate this would take an individual 6 months full time work, minimum.

WP4: Recruit Stakeholders To Pilot The Tool
The survey at the end of Year 1 is also a recruitment tool for the second and expanded round of participants. We hope after the survey to have three distinct communities of users, individuals showing off their own achievements, universities trying to track multiple users, and funding agencies tracking particular projects.

In lieu of Universities, in the very beginning, we would be looking to connect with (science related) Wikimedia affiliates and having them use it to track particular users across time, so they can better report their collective impact.

In terms of recruiting funders, our team has an associated research grant through which we examine which funders are supporting Wikimedia Related Research. We additionally have quite good support among the regional grants committee, and we will be looking to make sure that the tool is meeting their needs, as well as external funders and agencies.

Figure 1: Relationship of Major Stakeholders (MST)s and the WikiSci/ SONATA project.
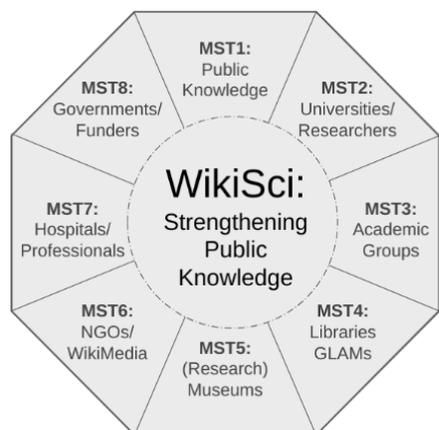
At the end of year 2, we expect to have a quite decent tool that individual researchers can indicate their impact with, and at least one granting agency piloting the tool with us as a part of their grant reporting processes. The goal will be to show funders the work and impact that they are having with Wikimedia, also as a way to try and shift more funding and ad spend from paid platforms to e.g., Wikimedia.

Expected output

This extended research grant is expected to result in a number of outputs, described below:

- A more specific instance of the P&E dashboard aimed at external decision makers at universities and funders.
- Better data about exactly what scientists are contributing to Wikimedia.
- A paper calling for more engagement between scientists and Wikimedia, highlighting the huge contributions scientists are making.
- Greater recognition of the importance of wikimedia for science.
- More wikimedians being able to keep their jobs and get credit for their work.

Professional credit for Wikimedians. The major goal of the grant is to get Wikimedians credit for their work and this should be the primary outcome. Again, it is longer than a one or two year project, but we feel we have made substantial progress in the 1.5 years we have been working on it without hardly any resources. This will further support the project.

Data and understanding of what exactly scientists and professionals are contributing. The main use of the tool is to better document the impact that professionals and scientists are having on the Wikimedia Ecosystem. Good for users but also Wikimedia to track the contributions of Wikimedia to e.g., science.

Example questions this tool could help answer are: in what areas are scientists writing and in what areas can the community team be doing more work to bolster public knowledge? This tool should be built so that funding agencies are able to see how their funding dollars are improving public knowledge.

More contributions from professionals, because they can get credit for their work. Aside from more credit for individuals when they contribute, the ultimate goal is to get more contributions from such high quality contributors. While we may not be able to substantially improve e.g., the new editor numbers this year, we believe a long term shift toward getting wikimedia taken seriously by scientists and professionals in general will be a long term driver of growth and sustainability for the movement.

Paper presenting the results. We expect at least one paper presenting the tool and metrics to audiences, and of course inviting them to track their impacts with the new tool.

Risks

The risks for this proposal include:
- Failing to make Universities and Funders care about Wikimedia.
- Introducing biases into the Wikimedia Ecosystem by mixing professional incentives with volunteering.
- The Wiki community is not interested in organizing (into a hub structure).
- Funding cuts in the U.S. If the current political climate persists, U.S. participants may be less likely to engage.
- Not building the tool correctly.

We have demonstrated that people want this work and project. The survey we did had strong

support for better mechanisms to indicate contributions within professional settings.

The biggest risk is probably that we simply do not correctly understand the needs of our users or in general build the tool incorrectly. It is easy to build something, but difficult to build something that users Really want. This is also why there is such a major focus on user experience and testing in the first year and in general during the development.

Community impact plan

The goal of our proposal is to understand how we can support contributors (Wikimedia 2030 Strategy 1.1), especially by helping them get more and better professional credit for their contributions to open knowledge.

Getting Wikimedians Professional Credit. Ultimately, our goal would be to have contributing to Wikimedia ecosystem a standard part of the grant reporting process. The project is aimed at helping spread the mission by

Fostering projects and bringing resources to the community. The ultimate goal is to help people get resources for the work they want to do. A major hurdle in this endeavor is finding the grants themselves and more importantly project partners with the proper expertise to fill out the research team.

Evaluation

Number of people in the launch groups. The beginning of the project is capturing a good number of people who are ready to provide incremental feedback on the Tracker as it develops. To this extent, simply the number of people participating at various stages is a good indicator of early success. This can be measured not only through logs of the calls but also the number of people logging in to the tool.

Number of responses to the survey and people engaging with the tool after the first year.
The goal is to finish the first year with a public release of the tool, along with a survey asking for specific feedback and ways that the tool could be additionally improved for use.

Number of champions identified. In a similar way that WikiEd can use its data to help Wikimedia understand what is going on with the project, we also expect to be able to use the data in a similar way. The ultimate goal will be to have different codes in the database which then we can connect with them in particular for relevant opportunities. In the longest term one could even think of a profile for Wikimedians to show off what they are working on.

Number of new editors.
This is not a short term metric, but the goal is to, when the project is successful, be recruiting academics in substantial numbers, thus also increasing various metrics across the data that Wikimedia uses including e.g., new editors, editor retention, and quality of the metrics.

Reduction in attrition rate of editors.
Another way we hope to create impact in the longer term is to reduce the attrition rate. This will mostly happen by helping people to get credit for the work they are doing, if not financially from the Wikimedia Foundation, symbolically in their workplaces, or otherwise.

Grants and further projects generated.
Ultimately, the goal of these activities is to bring more resources to the community, thus helping people do the work they want to do without financial struggles. To this end, we will try to measure and support grants in the community, especially ones that support the community.

Budget

The budget is here, but in general we plan to use most of the funds to pay for people to work on this project and one local research visit or presentation per project partner. The time estimates per person and rate at which the time is charged are appropriate given that it is working time. The university overhead is calculated at 15% of the semi total budget.

Brett Buttliere is expecting to spend at least 2 days a week on the project throughout the 2 years. He is asking for 1,500 USD per month, or in total 18,000USD per year. He is the primary grant holder and thus also holds extra responsibility not only for writing the grant and its reports, but also handling the administration associated with the grant. He is a social computational researcher focusing on the communication of science, also working with Wikimedia during the last years. He is helping lead the WikiScience Hub and COST Action.

Formasit Chijoh is the primary software engineer, and she has been working in the Wikimedia space for several years. Last year, Formasit held a 3 month paid internship with WikiEd where she improved the efficiency of the Programs and Events Dashboard. She has built several front and back ends, including websites and APIs. She will be primarily responsible for building and maintaining the Wikimedia Impact Tracker, and we look forward to being able to support and develop Formasit's valuable contributions to the Wikimedia Community. Formasit is also expecting to work 2-3 days per week on the project and is asking for 1,500 USD per month or 18,000USD per year.

Matthew Vetter is a Professor of Language, Literature & Writing at Indiana University of Pennsylvania and a veteran Wikimedia contributor and educator. He has served on the North American Regional Grants Committee

since its inception, leads the CCCC Wikipedias Initiative and WikiProject Writing as co-chair, and is a core member of the WikiSci Hub and COST Action. Matthew is primarily focused in this grant on data collection and analysis, as well as advising efforts overall. Matt is expecting to work 1-2 days a week on the project and is asking for 1,000USD per month or 12,000USD per year.

Abbey Ripstra is a Human Centered Design Researcher and Founder at Design Research Services. Abbey was the Lead Design Researcher at Wikimedia Foundation from 2014 - 2019 where she worked to establish a design research practice within product development and led several contextual inquiries to better understand the needs of New Readers and New Editor Experiences. Currently, she works on Knowledge and language equity among other topics. She is expecting to spend 1-2 days on the project and is also asking for 1,000 per month or 12,000 per year.

In sum, each of our four teammates expects to spend between two and three full time months on this project for the next two years. In total we are asking for 144,900 USD for 4 people to work on the project between 10% and 50% of their working time for the two years. We believe the benefits to the community will be substantial and are more than worth the requested amount.

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