
Impact-Oriented Public Relations – Positioning the ZBW as an Open Science Partner for Economic Research

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Abstract: This article describes the challenges, goals and opportunities of impact-oriented communication for academic libraries using the example of the ZBW – Leibniz Information Centre for Economics. The article describes how the ZBW is working to strengthen its perception as a competent partner and promoter of Open Science (hereafter OS) among its main target group of economists in order to communicate its transformed mission. This article describes the path from the challenges and goals to the concrete communication activities and the evaluation of the impact-oriented communication work.

Keywords: Impact-oriented communication, Public Relations in libraries, Outcome measurement, Target group engagement, Open Science communication

Introduction

The importance of impact-oriented communication for modern public relations in libraries is manifold (Selbmann, 2019). First, an impact-oriented approach allows libraries to strategize their communication efforts and to have clear objectives. Rather than simply communicating information, impact-oriented activities focus on achieving specific effects, such as raising awareness of an issue, changing attitudes or promoting specific actions

(Coombs & Holladay, 2015; Grunig & Dozier, 2003; Grunig, 2020; Jensen, 2014; Jensen, 2015; Jucan & Jucan, 2014). Furthermore, an impact-oriented approach helps to measure the effectiveness of communication. By defining impact goals, organisations can evaluate and continuously improve the outcomes of their communication efforts (Holtzhausen, 2000; Jensen, 2015; Ledingham & Bruning 2000; Macnamara & Likely 2017; Schäfer & Fähnrich 2020; Schäfer, 2016; Schäfer et al. 2019; Trench, 2008, Watson, 2012). Finally, impact-oriented communication supports building stronger relationships with target groups. By putting the needs and interests of target groups at the centre of the communication strategy, libraries can become more relevant and appealing to them (Siegfried & Tochtermann, 2017).

In the following article, the communication work of the ZBW - Leibniz Information Centre for Economics (Germany, www.zbw.eu) will be presented as an illustrative case study – from practitioners for practitioners. The case study focuses on the approach of impact-oriented communication management. The target group of the communication work is the economic research community in Germany and the aim is to position the ZBW as an OS cooperation partner. For other libraries, other objectives may be relevant. This article begins with a brief explanation of the model of impact-oriented communication. The second section discusses the challenges and objectives of

ZBW. The third section presents concrete communication measures. The fourth section is dedicated to the methodological considerations of the impact analysis, while the fifth section presents the results of this analysis.

What does impact-oriented communication mean?

A number of models have been developed in public relations (PR) research since the 1980s to explain how and when to apply research and evaluation in PR and corporate communications (Buhmann et al 2019; Huang, 2001; Macnamara, 2014; 2018; Tench et al. 2017; Schölzel, 2019). What these different models have in common is that they advocate standardised measurement and evaluation procedures that accompany the communication management process from the very beginning (Buhmann et al., 2019; Lindenmann, 2003; Macnamara 2014, 2018).

The DPRG/ICV Framework for Communication Controlling (Figure 1) is a concept that describes the different levels of impact of PR measures on target groups (Macnamara & Likely, 2017). The model is based on the assumption that PR activities not only disseminate information, but can also bring about a change in the target groups' thinking, feeling and acting. The model is based on the central assumption that communicating can impact one's own institution, provided that it is targeted.

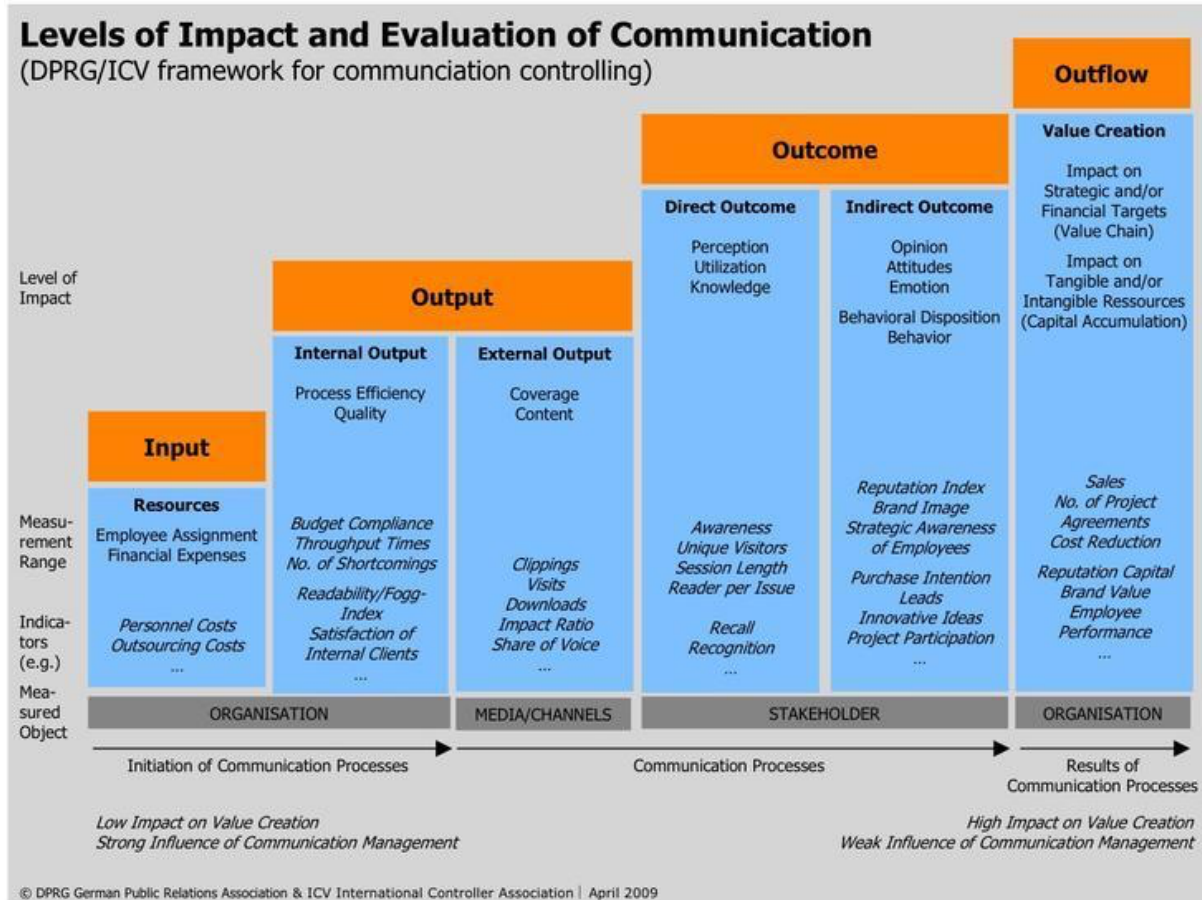


Figure 1: The DPRG/ICV Framework for Communication Controlling (Zerfaß, 2010, p. 958)

The DPRG/ICV Framework for Communications Controlling provides a model for effectively measuring and controlling PR and corporate communications activities. It is based on the approach that communication is a management process that should be controlled and optimised in the same way as other business areas.

The framework is structured around four levels of impact:

1. **Input:** This level looks at the resources and activities used to carry out communication processes. This includes factors such as budgets, staffing (quantitative and qualitative), time spent and technological equipment.
2. **Output:** The second level focuses on the immediate results of communication activities. Quantitative aspects such as the number of press releases published, media reach, website clicks, annual report downloads, take-home flyers, number of likes or attendance at events can be measured.
3. **Outcome:** This is where the impact of communication activities on target audiences is recorded. For example, changes in the target groups' knowledge, attitudes or behaviour that can be attributed to the communication activities should be taken into account.
4. **Outflow:** The final stage measures the long-term impact of communication on the organisation. It looks at the business impact of communication. It looks at the extent to which communication activities have led to the achievement of organisational objectives. For example, has the library attracted new patrons, collaborators or users? Has the library's reputation changed? Do the library's reputation values change among selected target groups?

The DPRG/ICV framework takes existing impact models in communication management, PR and marketing communication and introduces a terminology that enables the classification and interaction of different approaches to communication controlling. In doing so, it modifies and specifies earlier representations of communication effects, which operate with distinctions such as output, outtake, outgrowth, outcome and outflow, but use these terms differently in some cases (Lindenmann 2003; Macnamara 2018; Pfannenbergr & Zerfaß, 2005; Watson & Noble, 2007).

For libraries, the DPRG/ICV framework enables a holistic approach to planning, implementing, measuring and optimising PR. By constantly evaluating the communication process and, above all, the impact of their own communication work, libraries can target their work and use their resources wisely. Especially in libraries, where there is often a small staff and little budget for public relations, it is all the more important to be strategic and thoughtful. Libraries can also use process-based evaluation to check the effectiveness of their objectives, to further professionalise themselves, to show evidence of success, and to justify the use of taxpayers' money. It also helps library communications staff to set a benchmark for their colleagues. In short, the structured process enables librarians to improve their communications work. This framework, therefore, forms the basis of the ZBW case study.

Impact-oriented communication work: challenges and goals

The global science system is undergoing a profound transformation, with openness and transparency in research becoming increasingly central principles. For example, the digital transformation of science is revolutionising the way research is planned, conducted and disseminated. Researchers can now access countless digital resources, use digital tools in their research processes, publish research results online and collaborate with teams around the world. The digital transformation allows research results to be shared, validated and reused more quickly, promotes transparency and accelerates scientific knowledge processes and it enables OS (Spellman, Gilbert, & Corker, 2018; Woelfle, Olliaro, & Todd, 2011; Fecher & Friesike, 2014). OS encompasses practices and processes in all scientific disciplines that promote transparency, accessibility, traceability and reusability in research. These changes towards greater openness – OS – are also now strongly influencing the requirements for scientific information infrastructures and libraries. What's more, they also shape the role of information infrastructures and libraries as part of the research system.

The growing relevance of OS requires economic researchers to adapt their working methods and publication channels (Gordon et al., 2020). In addition to the need for increased transparency and collaboration, research

data management in particular plays a crucial role. Large funding organisations in Germany increasingly demand detailed information on research data management and expect general access to research data after project completion. At the same time, the increasing importance of OS implies a shift in research culture towards more openness and cooperation.

Impact-oriented communication goals of the ZBW: Strengthening the perception as a partner of OS competence

Against this background, the ZBW has set itself the goal of assuming the role of an important partner and service provider in the field of OS for economic research. By positioning itself as an OS partner for economic research, the ZBW is taking a proactive approach and responding to the current changes in the science system towards more openness and transparency. As an information authority, the ZBW is positioning itself with a new role as a relevant and important part of the science system. The ZBW is actively shaping change by positioning itself as an OS actor. Our concern is that economic researchers in Germany appreciate and recognise the efforts and commitment of the ZBW to OS. However, ZBW is aware that the topic of OS is not yet fully anchored in the mainstream of economic research. Therefore, the communication department of ZBW sees it as their task to explain OS in all its facets and to raise awareness of it as an important topic. They want to present it as a science policy challenge but also as a logical element of good scientific

practice. More information about ZBW's activities to accomplish these aims are included in the following sections.

Who is the target group?

The *direct* target group of the ZBW's communication work are people working in economics (economics, business studies and other business-related subjects) at universities, including universities of applied sciences, and non-university research institutions nationwide. The spectrum ranges from research assistants and doctoral students to professors with many years of research experience.

The number of university staff in Germany in the economic sciences is 40,143. 37 percent of these persons are employed at universities, 63 percent at universities of applied sciences (Destatis: Statistisches Bundesamt, 2021).

The multipliers or *indirect* target groups of this case study include professional associations such as the German Economic Association (VfS) and the German Academic Association for Business Research (VHB). These organisations can then use various approaches to introduce the topic of OS to their members, for example, via regular workshops and training courses, information materials, webinars, lectures and, integration into existing events or discussion forums. Additionally, the communication department of ZBW addresses local OS

centres, platforms or training providers, Open Access (OA) officers and local academic libraries and information institutions, which are also committed to OS support.

Needs of the target group with regard to OS

Before communication activities were started, an OS study from 2019 provided insights into the concrete support needs of economic researchers with regard to OS, which formed the basis for impact-oriented communication work (Scherp, Siegfried, Biesenbender, & Breuer, 2020). The data analysis from the study makes it clear that the majority of the scientists surveyed have a pronounced need for information and support in the area of OS. Above all, researchers would like an overview of relevant platforms, tools and applications that support OS practices. Other key findings include the need for better access to open research data, OA publishing and legal aspects of OS. In addition, there was particular interest in the experiences of other researchers with OS. Furthermore, there was a desire for support services that are flexible and accessible around the clock.

ZBW's communication strategy

ZBW's communication strategy aims to raise awareness of OS in economics and to motivate researchers to implement the principles of OS in their research practice. In doing so, the communication department focuses on

benefit-oriented communication based on the specific needs and interests of economic researchers.

In order to reach economic researchers, ZBW addresses the following central questions in its communication:

1. **Personal benefits of OS:** What are the benefits of OS for individual economic researchers? How can OS improve career opportunities?
2. **Practical implementation of OS:** How can economic researchers effectively implement OS in their research practice?
3. **Social responsibility:** What responsibility do economic researchers have for society in their role as economists and how can OS help?

The strategy is based on content marketing and impact-oriented communication to generate attention for the ZBW brand and its services in the field of OS. However, the communication department of ZBW does not merely want to advertise services, but rather establish a dialogue and create a long term relationship with its users.

To achieve this, the PR team consistently focuses on the perspective of economic researchers. The communication content is designed to satisfy concrete functional and emotional needs, i.e. to provide a "benefit" to the

economic researcher. By providing information and content that helps them to make their research more effective, improve their career opportunities and fulfil their social responsibilities, the communication department aims to communicate the value and relevance of OS to economic researchers and motivate them to actively engage in OS.

Conclusions for communication work

The model outlined by Scherp, Siegfried, Biesenbender, and Breuer (2020) laid the foundation for ZBW's impact-oriented communication work. It showed that ZBW's information and support services should be intensified in the areas that are important to researchers. In detail, this meant:

- It must be made clear how OS can improve one's own work.
- Clear and comprehensive information about OS platforms, tools and practices must be provided.
- Communication offers should be quickly consumable and easy to integrate into the daily work routine.
- ZBW support services need to be available 24/7 and flexible, whether through online materials, online workshops or individual counselling.

- It must be made clear why the involvement of the ZBW is necessary. In addition, economic researchers should learn about the problem of closed science with all its consequences.

Impact indicators

The ZBW strives to have their efforts and commitment to OS valued and recognised by the economics community in Germany and in so doing, become a significant partner and service provider for economic researchers who use OS. As shown in Figure 1, measurable impact indicators that guide the communication work are therefore the following:

- Proportion of economic researchers who **know** that ZBW offers support or a wide range of services in the area of OS.
- Proportion of economic researchers who **expect** the ZBW to offer support or a wide range of services in the field of OS.
- Proportion of economic researchers who **attribute** a high level of competence to the ZBW in the field of OS.
- Proportion of economic researchers who **perceive** the OS commitment of the ZBW (e.g. science policy advice, OA transformation, etc.).
- Proportion of economic researchers who **consider** the entire OS engagement of the ZBW **to be important and relevant**.

Impact-oriented communication activities

The communication campaign is based on a cross-media communication strategy with a focus on digital communication and content marketing. The central content hub is *Open Science Magazine* (<https://open-science-future.zbw.eu/en/>). Here, the communication department regularly publishes content tailored to the needs and interests of economic researchers.

- The **worksheets** contain tasks that can be incorporated into the daily routine of economic researchers. Depending on the topic, the task can take 5 to 60 minutes. This is a low-threshold way for researchers to learn new platforms or applications. They give an overview of OS platforms, tools, applications.
- In the **practical tips**, there are concrete tips and information on a specific topic tailored to the discipline of economics, e.g. on how to better find research data, on data management or on better publishing in OA.
- There is also specific **legal information** on licences, publishing agreements or image rights.
- Readers can learn about the **best practice experiences** of economists from Germany, Austria, Switzerland and the UK in the context of OS. Readers can learn about the advantages for their scientific careers that the peers have already experienced, and how they proceed with pre-

registrations, registered reports or publishing in OA. In addition, readers can individually expand their network of contacts through the more than 50 interviews that have now been conducted.

- In the ZBW podcast series *The Future is Open Science*, interesting people from the scientific community, including those from the ZBW, reveal how they promote OS in their daily work. Listeners can learn background information, contexts, personal motivations, individual perspectives as well as tips and tricks to follow. (<https://podcast.zbw.eu/fos/>, German only).

Altogether, the magazine shares best practice advice from other economists, concrete tips and advice through its worksheets, background information on current OS developments, news from the economic consortia of the National Research Data Infrastructure (NFDI) and inspiring interviews with transformative ideas via the podcast. With this content, the ZBW is responding directly to the needs for support.

For distribution, the communication department relies heavily on direct communication via email newsletters and, above all, social media: Twitter, LinkedIn, and YouTube for podcast content. It additionally uses newsletters and email campaigns to explore specific themes.

In disseminating its content, the ZBW also relies on multipliers from economic science associations, libraries, graduate colleges, faculties, student councils or communication experts in economic research institutes. Beyond that, ZBW also works closely with other institutions, professional associations, research organisations and OS centres and platforms to organise joint events or panels, create joint content and spread information about OS in the economic research community.

In addition to the central content hub *Open Science Magazine*, there have also been international OS Retreats since 2021. These retreats offer small discussion groups in which economic researchers can exchange ideas with other actors from the scientific community on specific topics in a group limited to 30 people. Previous topics have been “Sustainable and reliable Open Science Infrastructures and Tools”, “Impact of Global Crises on the Open Science Movement”, “Economic actors in the context of Open Science – The role of the private sector in the field of Open Science” and “Reform on Research Assessment in the context of Open Science”.

In 2023, an OS Meet Up was held for the first time. This is an event during which economic researchers who are already interested in and committed to Open Science meet and jointly develop a concrete agenda on how they,

together with the ZBW, can bring OS into the mainstream of economics. After the kick-off meeting in April 2023 in Berlin, further meetings will take place to work on specific sub-topics such as education or culture.

Impact analysis of communication work: Method

During the study, all communication work is reviewed throughout, starting from the beginning, i.e., the communication department analyses access figures, opening rates, feedback on individual content types and resonance of all social media posts. In addition to the continuous monitoring of the communication activities, ZBW conducted a comprehensive impact analysis in 2022.

The central questions were: To what extent is the ZBW perceived as an important partner and service provider in the field of OS? Do economic researchers in Germany find the efforts and commitment of ZBW to OS important?

For this purpose, 401 economic researchers were surveyed online using a stratified random sample in ten defined subgroups. The spectrum surveyed included various status groups as well as subject disciplines to ensure a comprehensive representation of the scientific community in this field. The survey targeted academic staff and professors in the fields of economics and

business at research universities, universities of applied sciences, and non-university research institutions in Germany.

Very small groups that provided little meaningful data were combined into larger groups. This resulted in seven sub-target groups with sufficient data for the analyses. These sub-target groups included: research assistants in the field of business studies at universities and universities of applied sciences (47.1%); business studies professors at universities of applied sciences (24.9%); business studies professors at research universities (12.4%); research assistants in economics at universities and universities of applied sciences (5.9%); research assistants in economics at non-university research institutions (5%); economics professors at universities of applied sciences (3.1%); and economics professors at universities (1.6%).

Effects of the communication work

The results of the interviews paint a multi-faceted picture of the state of OS in economics. For example, while both research funders and leading journals increasingly call for the disclosure of data and code, implementation in practice is still inconsistent. Despite the rising discourse around OS and the increasing integration of OS practices in Collaborative Research Centres and Research Training Groups, there is a discernible difference between the attributed importance and the actual use of OS services.

However, it is worth noting that over three quarters of respondents attribute a major future role to OS. Furthermore, the data show that research assistants show a greater interest in OS than professors, which indicates a growing awareness and willingness to use these practices, especially among younger researchers. This population thus represents a “young avant-garde” that indicates both an awareness of the need for future-oriented scientific skills and a willingness to change the science system. More results from the study around OS practices and relevance in economic science practice can be accessed at: <https://zbw.to/KxhHx>

Awareness of the OS activities and the commitment of the ZBW

How were the activities of the ZBW perceived with the impact analysis? The survey on awareness and perception of the OS services of the ZBW revealed a multi-layered picture. Among the 319 people who were both familiar with the ZBW and saw OS as relevant to their work, the majority expected the ZBW to provide support in various areas. In detail:

- 68% of respondents know or expect that the ZBW offers support in searching for and finding economic research data.

- 67% of those surveyed know or expect the ZBW to help with handling and processing OA publications.
- 77% know or expect the ZBW to provide information and guidelines on OS in economics.
- 72% of respondents are aware of or expect the ZBW to offer specialist training courses and workshops on the use of research data.

Although only a small percentage of respondents were certain that the ZBW provides specific services, many assumed that the ZBW provides support in finding economics research data, in preparing OA publications, in providing information and guidelines on OS practices, and in organising subject-specific training and workshops.

In addition, about a quarter of the respondents (24.4%) attributed a high level of competence to the ZBW in relation to OS. Interestingly, certain subgroups, such as economics professors at universities (48%) and business studies professors at universities of applied sciences (35%), saw the ZBW as particularly competent in matters of OS. However, this view was shared less by academic staff. Of the academic staff, only 22% said they considered the ZBW to be highly competent in the field of OS.

The respondents were also asked about their perception of further activities of the ZBW. The majority expects the ZBW to promote the OS movement in science policy and to work towards making as many research articles as possible openly accessible.

With regard to the importance of the ZBW's commitment to OS in economic research, 72.5% of respondents agreed that this commitment is important. In particular, research assistants in economics (83%) and professors at universities of applied sciences (81%) shared this view. Furthermore, 18.7% of respondents said “partly/partially”. Only 8.9% of all respondents said that it is not important to them that the ZBW promotes OS.

Despite the potential relevance of the NFDI for research work, just under 9% of respondents are aware of the ZBW's involvement in the NFDI. Furthermore, the ZBW's commitment to its development is unknown to the majority of respondents (83.6%). This is not surprising, since the NFDI as a whole is known to very few people in Germany.

In summary, the impact analysis shows clear indications of a positive perception of the ZBW with regard to its OS activities and services. The ZBW is seen by many respondents as important and competent partners in the field of

OS. These findings are crucial for effective communication work, as they show that the messages and values that the ZBW is trying to convey are perceived and appreciated by the target group.

In terms of the interim evaluation of a communication campaign, these results are promising. The communication goals – image building, reputation and positioning the ZBW as an OS partner – seem to have been achieved. However, there are also areas where improvements are possible and necessary. In particular, the awareness of specific services provided by the ZBW and its commitment to the NFDI could be increased. Furthermore, the results show differences between different groups of economic researchers, suggesting that more target group-specific communication measures could be helpful. Ultimately, it is important to remember that communication work is a continuous process. The results of this survey offer valuable insights and directions on how the ZBW can further improve its communication efforts to better reach its target groups and further strengthen its commitment to OS.

Outlook

The results of the impact analysis open up several strategic directions for the future communication work of the ZBW. Based on the findings, the following measures should be considered in the future:

1. **Make the importance of OS clearer:** As a majority of respondents recognise the importance of OS, the ZBW should continue to highlight the benefits of OS and its contribution to promoting these practices.
2. **Highlight more specific services provided by the ZBW:** The results show that not all respondents are familiar with the specific OS services offered by the ZBW despite their interest. Communication measures should therefore be developed to more strongly emphasise and explain these services and their benefits. Based on the feedback received in the survey, and due to the difference between knowledge of the general competence of the ZBW and knowledge of the specific OS services, the following aspects should be emphasised more in communication:
 - The role of the ZBW in helping to find economic research data.
 - The help that the ZBW offers in handling and preparing OA publications.
 - The information and guidelines that the ZBW provides on OS practices in economic research.
 - The subject-specific training courses and workshops that the ZBW offers on handling research data.
3. **Develop target group-specific communication strategies:** There are differences in the perception of the ZBW and its OS engagement between

different groups of economic researchers. Therefore, an adapted communication strategy should be developed that addresses the specific needs and interests of these groups.

4. **Communicate commitment to the NFDI more intensively:** The impact analysis shows that the commitment of the ZBW to the NFDI is not yet sufficiently known. Therefore, the participation of the ZBW in the NFDI and the associated benefits for the research community should be communicated more actively.
5. **Continue building trust:** A positive perception of the ZBW already exists. It is therefore important to further build and consolidate this trust by continuously demonstrating the ZBW's competence and commitment to OS.
6. **Establish feedback channels:** It is important to continuously gather the opinions and feedback of the target group. It therefore makes sense to continue to establish regular surveys or other feedback mechanisms to understand how to further improve the ZBW's services and its communication.
7. **Highlight success stories:** In the future, the ZBW could present success stories from its work to clearly demonstrate how it supports researchers and has a positive impact on the scientific community.

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