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A collaboration platform for sociology.
How to increase accessibility, visibility and sustainability of scientific information in sociology

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Abstract Web-based information and communication systems extend access for scientific communities to information such as publications or research data and provide the opportunity to collaborate with other scientists. Our comment gives a short sketch of the Information Service Sociology (short: FID Sociology), in which we aim at designing and developing such an information and communication infrastructure within the field of Sociology. To this end, it comprises (i) an approach for simplified publishing of open access publications, (ii) an integrated search across multiple sociological databases, and (iii) a collaboration platform to facilitate interaction and collaborations between members of the sociological community. Here, we mainly focus on the individual steps of the development of the collaboration platform.

The Information Service Sociology GESIS - Leibniz Institute for the Social Sciences - and the University and City Library of Cologne jointly develop an information and communication system for researchers in the field of Sociology: the Information Service Sociology (short: FID Sociology). We implement the system as a web-based infrastructure and develop its functionalities in close cooperation with the sociological community, in particular with representatives of the German Sociological Association (Deutsche Gesellschaft für Soziologie, DGS),[1] which up till now comprises 36 sections formed within the major fields of sociological research. This way, we make sure that the implemented services are in accordance with the interests of the sociological research community. Additionally, the integrated functionalities and their use will be evaluated repeatedly, in order to adapt to the changing needs of researchers in later phases of the project.
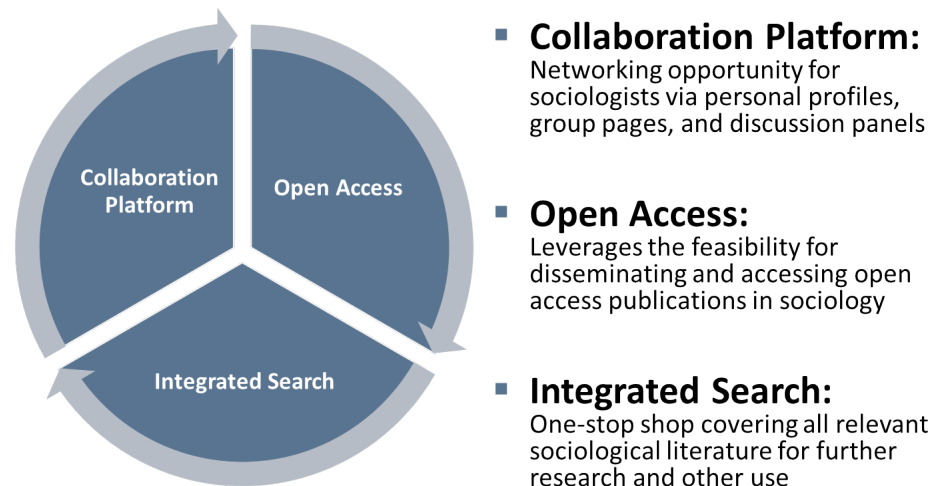
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[1] http://www.soziologie.de/en/gsa/about-the-gsa.html.

Collaboration Platform:
Networking opportunity for sociologists via personal profiles, group pages, and discussion panels

Open Access:
Leverages the feasibility for disseminating and accessing open access publications in sociology

Integrated Search:
One-stop shop covering all relevant sociological literature for further research and other use

Figure 1. FID Sociology, its main components, and how they interact with each other.

Why a new information service for sociology?

Searching for scientific information is a constant challenge for researchers, even in times of global scientific search engines gathering and containing masses of possibly relevant data and documents. Specifically, the so-called "information overload" is identified as one of the main problems when searching for relevant scientific data and literature. To cope with this problem, two strategies were pointed out in [Boekhorst, Kayß and Poll, 2003]. On the one hand, personal information networks alleviate the situation, as they inform the researchers about current and relevant literature [Boekhorst, Kayß and Poll, 2003]. On the other hand, utilizing specialized search tools such as digital library catalogs and specialist databases can avoid a possible information overflow [Haglund and Olsson, 2008; Shen, 2007]. The latter is especially useful, if the digital library catalogs are open access repositories.

FID Sociology, which is funded by the German Research Foundation,[2] targets both strategies, i.e., enabling direct access to specific literature and other research-related information via connecting the sociological research community. To this end, we designed three major components. First, a simplified approach for open access publications, second an integrated search across multiple sociological databases, and third a collaboration platform to facilitate interaction and collaborations between members of the sociological community. Figure 1 illustrates these three components and how they interact within the information system. For example, one's publications can be found via the integrated search. These publications can then be added to the personal profile of the collaboration platform and/or made available as open access (if the necessary rights are available), making full texts available for the public.

Open Access

Disseminating and supporting open access publications serves the free and extensive supply of scientific full texts for sociology. To this end, we exploit the Social Science Open Access Repository (SSOAR)[3] which is also operated by GESIS. The close collaboration between SSOAR and FID Sociology aims at supporting sociological scientists in the secondary publication and self-archiving of their work. Therefore, FID Sociology is aligned to the need of the sociological research community for open information access more than before.

Integrated search

The FID Sociology integrated search serves as a one-stop shop for the information need of sociological research. It is available to anyone interested in the subject, but offers additional licensed literature to registered users who need to be a member of the German Sociological Association. As a data basis for the integrated search, we use literature research modules that are well established on the sociological community, e.g., the sociological EBSCO index as well as SSOAR.

Collaboration platform

Originally, we designed the collaboration platform as an academic network. Such academic networks are generally designed towards scientific communities and offer a special range of functions, which primarily benefit scientists. The scope of such functions includes, for example, creating a personal profile, interlinking with other users, and literature-related functions such a personal publication list [Nentwich and König, 2013]. However, existing commercial academic networks, such as Mendeley,[4] ResearchGate[5] or Academia.edu,[6] do not have a disciplinary focus. Among such general functionalities, FID Sociology focuses to include additional features which specifically target the sociological community. In cooperation with sociologists of the DGS, we identified that a work environment enabling collaborative scientific engagement and representing DGS research groups correspond to the acute needs of the community. Hence, the re-design in form of a collaboration platform.

The collaboration platform in detail

Why a collaboration platform?

To ascertain the needs of the sociological research community in a first step, we designed an online survey for members of the DGS. Around 300 sociological scientists participated in the survey, and 87.7% of the participants completed it. The central requirements comprised that the integrated search should be sort of a "Google Scholar for Sociology" and that the researchers need a platform where they can look for call for papers, discuss current research topics, and organize the DGS sections. Therefore, we decided to meet the requirements by implementing an

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[3]http://www.ssoar.info/en/home.html.
[4]https://www.mendeley.com/research-network/community.
[5]https://www.researchgate.net/.
[6]https://www.academia.edu/.

academic network with an integrated search to serve as one-stop point for the sociological scientific community.

However, in further expert discussions with DGS sociologists, we realized that there is no actual need for self-representation in an academic network. This means, sociological researchers use so-called "general-purpose" networks, such as Facebook or LinkedIn, for their everyday-interactions and already existing, proprietary but large academic networks, such as ResearchGate, for representing their scientific work and accomplishments. Therefore, they do not need any double structures where they have maintain yet another profile.

Existing frameworks, like HumHub[7] or Elgg,[8] provide a basic implementation of a social network with basic functionalities, such as creating a profile, messaging, or creating and maintaining groups. After evaluating such frameworks, we decided to use HumHub and adapted it via additional modules to include personalized components. This way, we did not have to implement every functionality from scratch. Besides the easy possibility to add personalized modules, we chose HumHub because it is open source, very well documented, and the developer community is quite active. The two main additional features include so far the possibility to discuss occurring research questions as well as to create and organize internal groups, e.g., DGS sections or research sub-topics. Therefore, HumHub and its modular architecture are most suitable to design, implement, and subsequently extend the collaboration platform.

Comparison to global players

Established academic social networks are, for example, Mendeley, ResearchGate or Academia.edu. They target the entire scientific community without focusing on any specific discipline, and primarily aim at the self-representation of researchers, including their publications.

However, such platforms comprise several fundamental problems. First, like the (former) service AtmosPeer[9] for the community of atmospheric researchers, such platforms will cease to exist once their business does not generate sustained profits or they do not position themselves appropriately on the market. As a result, all data, contacts, and other artifacts gathered using the platform is lost or, worse, can be sold to third party companies. This also has an impact on the free scientific exchange which is identified as one major principle is in line with the Open Science strategy gaining more and more movement. Information and communication systems with a commercial interest are more like a closed community whose membership is explicitly tied to accepting commercial terms of use. Thus, it is generally not possible for commercial platforms to satisfy the provision of open and sustainable information with non-profit interests. Second, commercial platforms are typically developed without the involvement of actual target groups [Nentwich and König, 2013]. This means, the provided services and functionalities target a broad mass but miss the actual needs of various scientific communities, as the platforms do not focus on disciplines.

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[7]https://www.humhub.org/de/site/index.
[8]https://elgg.org/.
[9]https://www.researchinformation.info/product/atmospeer.

This is why we develop FID Sociology in close cooperation with sociologists from the DGS. Some sociologists participated in a working group on technical discussions before the development. Another group of high ranked sociologists form a scientific advisory board, to which we periodically present the progress of the project in order to obtain feedback and adjust functionalities. So far we additionally established a direct communication with eight DGS sections. In this cooperation, we designed, developed, and evaluated the core functionalities of the collaboration platform. Such an approach ensures that FID sociology is tailored to the needs of the sociological scientific community.

Evaluation

Evaluating the use of FID Sociology, i.e., measuring the uptake by the sociological scientific community is a central aspect during the project. However, we need to take care when observing user behavior, specifically which quantitative and qualitative evaluation metrics to select. For example, the sheer number of users does not precisely specify whether FID sociology addresses all requirements of the community. Also, comparing this number to the number of users of global players seems unfair, when we focus on one specific scientific community with only about 3.000 members. We rather have to obtain various key figures, especially those that display the single activities of the users, e.g., how often do they post a question for discussion, or how often do users participate in a discussion. In other words, it is important to understand how many users are actively involved in FID sociology.

In addition, qualitative evaluations gather opinions of the sociological scientific community; especially the advisory board representing the community is of interest. An "active use" of a system can be perceived differently across communities. Therefore, in order to give a representative meaning to the user-activity measurements, we have to set the measured values into context of the professional community. To this end, we conduct surveys and design user studies. As a result, all quantitative measurements obtain a more precise meaning based on the qualitative measurements.

Conclusion

The DFG-funded "Fachinformationsdienst Soziologie" (FID Sociology) is an information and communication infrastructure within the research field of Sociology and has the primary objective to alleviate (research) work of the sociological research community. The integrated search contains all relevant sociological publications and the open access support leverages the dissemination of second publications as open access. The collaboration platform connects the sociological community and presents tools for organizing sections and research groups of the German Sociological Association (DGS). The service will be online and available from Spring 2018.

FID sociology is designed in close cooperation with the scientific community in sociology, especially with members of the DGS, i.e., we design and develop all functionalities in coordination with an advisory board and with up to eight DGS sections. Thus, our information and communication system for sociologists can be differentiated from other global players, such as ResearchGate, since these have no specific focus on sociology.

Future work include enabling easier access and provision of research data that publications are based on, (semi)-automatically linking publications to the utilized research data, and further functionalities to increase collaborations between sociologists. The latter can include amongst others a possibility to author publications collaboratively or to organize small conferences and workshops including submission and review processes. However, the specific functionalities are yet to be discussed with the sociological scientific community and the DFG. In addition, our adjustments to HumHub for creating a collaboration platform have raised awareness in other research communities, such that we negotiate a possible reuse of the platform in other disciplines.

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Authors

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