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## Information Services of the Future: What is the Contribution of Special Subject Collections in German Libraries?

*With one of its oldest grant programmes, the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) supports a cooperative system for providing science and academia with specialised literature: the system of Special Subject Collections (Sondersammelgebiete, SSG) in research libraries. The changes in the information world caused by the digital revolution demand adaptations that affect the entire library system. Along with that, researchers' working methods and their expectations of an optimal information infrastructure have changed significantly. The DFG has therefore commissioned an evaluation study to assess the performance of the SSG system in terms of the scientific community's needs and to identify opportunities for development. Special attention was given to the role of digital media.<sup>1</sup>*

### 1 Background and Methodology

The study's<sup>2</sup> authors, Michael Astor, George Klose, Susanne Heinzelmann and Daniel Riesenberger of Prognos AG, employed different methods to answer the questions raised. In a first step, they analysed the objectives and features of the programme on the basis of programme documents. The second step consisted of an ex-post assessment of funding practices to date. Following an analysis of DFG proposal-processing data, intensive interviews were conducted with officials from 15 selected libraries. The selection reflected the essential structural characteristics of the system at large. It covered

77 out of 86 funded SSGs and over 95 percent of total DFG funding under this programme. In addition, interviews were conducted with a comparison group of employees from libraries without SSG. Based on the interviews, a written questionnaire was designed for the special subject librarians and the directors of all SSG libraries, to enable statements based on complete and comparable information.

In order to obtain an ex-ante perspective on the current and future library service needs of researchers, the 594 members of the DFG review boards, which are divided into 48 specialties, were invited to an online survey. DFG review board members are elected by qualified German scientists and academics from their midst.<sup>3</sup> They monitor the quality of the

1 Cf. Eckpunkte der SSG-Evaluierung [http://www.dfg.de/en/dfg\\_profile/evaluation\\_statistics/programme\\_evaluation/studies/studie\\_special\\_subject\\_collections/index.html](http://www.dfg.de/en/dfg_profile/evaluation_statistics/programme_evaluation/studies/studie_special_subject_collections/index.html)

2 [http://www.dfg.de/en/dfg\\_profile/evaluation\\_statistics/programme\\_evaluation/studies/studie\\_special\\_subject\\_collections/index.html](http://www.dfg.de/en/dfg_profile/evaluation_statistics/programme_evaluation/studies/studie_special_subject_collections/index.html)

3 [http://www.dfg.de/en/dfg\\_profile/statutory\\_bodies/review\\_boards/index.html](http://www.dfg.de/en/dfg_profile/statutory_bodies/review_boards/index.html)

### The DFG System of Special Subject Collections

Special Subject Collections (Sondersammelgebiete, SSG) in Germany's research libraries were established in 1949 to ensure nationwide availability of specialised literature for science and academia. This system of nationally distributed media acquisition has since served as a "virtual national library", holding domestic and foreign research publications from all disciplines. The purpose of cooperative acquisition is to provide in Germany at least one copy of each scientifically relevant work, catalogue it, and make it accessible nationwide for the long term. In addition to acquiring as many unique print publications as possible, the provision of digital media has become increasingly significant. Since the late 1990s, specialised information portals have been developed as "virtual subject libraries".

The SSG system now includes a total of 110 scientifically and regionally defined collection specialties, which are maintained by 36 libraries (<http://webis.sub.uni-hamburg.de>). The DFG continually funds 27 libraries (with 86 SSGs) under its Nationwide Library Services Programme (approximately 12.8 million euros in 2011). These grants cover 75 percent of spending on foreign publications. All other costs – including the acquisition of German publications on the respective subjects and personnel expenses – are born by the libraries themselves.

reviews and prepare the decisions of the DFG Joint Committee. The survey group is therefore not a representative cross-section of all researchers in Germany; rather, it is made up of more established researchers who are very familiar with the DFG's funding programmes. This target group thus makes it possible to investigate SSG-specific aspects while covering the entire disciplinary spectrum.

The results of these different analytical approaches were finally brought together and developed into recommendations for action. The external evaluation was accompanied by a DFG-appointed expert commission.

## 2 Performance of the System from the Perspective of Libraries

To investigate the functioning and performance of the existing SSG system, a qualitative survey was conducted among the participating libraries according to the basic parameters for the evaluation that had been previously determined. The objective was to review

the principles and characteristics of funding by answering the following key questions: What are the requirements for the libraries, and how are they implemented? What are key factors in the acquisition of scientific literature? What are the perceptions regarding division of labour, cooperation and quality assurance within the system? And finally: What is the benefit for libraries and what effort is required of them?

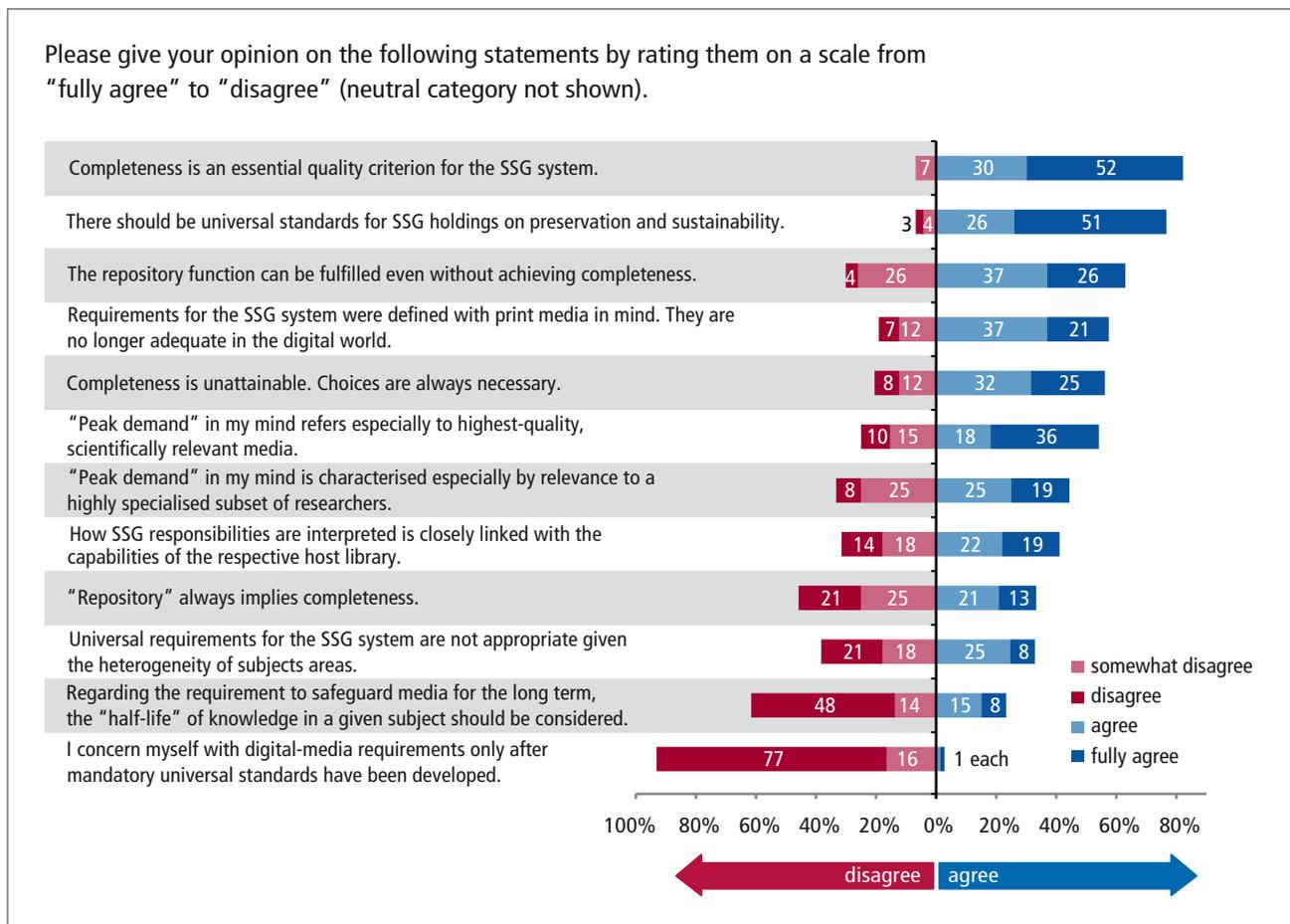
Out of all the insights gained into the workings of the system, the assessments regarding requirement feasibility, quality assurance, possible improvements and expected developments are of particular interest. This applies especially in terms of the growing importance of digital scientific publications and communications.

The foremost requirement of the existing system is to acquire, as completely as possible, all research literature relevant to the respective collection focus, the so-called "peak demand". The survey paints a very mixed picture of how these criteria are perceived and how the requirements are implemented in practice. While the representatives of the SSG

libraries agree that completeness is an important quality criterion, far more than half of all respondents believe that forward-looking collection development – i.e. building repositories – is possible without full acquisition coverage, and that acquisition in practice always requires choices. Applying the same criteria to the procurement of digital publications is also seen critically (see Figure 1). Accordingly, opinions vary widely on the key factors influencing acquisition practice. As many as 40 percent of respondents believe that limited internal financial and human resources, as well as limited external funding, make it difficult to meet the requirements. The study's authors also note that on digital media it is often unclear whether and to what extent systematic acquisition is necessary and possible. Complete acquisition of digital media does

not occur, for several reasons. These uncertainties are often caused by licensing problems in the nationwide provision of digital media, or by the as-yet largely unresolved issue of long-term archiving of electronic resources. Furthermore, in some special subject collections – especially in the humanities – the availability and importance of digital publications are still considered to be rather low.

Opinions on division of labour and possible adjustments to cooperation within the SSG system clearly reflect the individual interests of the participating libraries. Depending on the size of the institution, distinct views are evident on the distribution and merging of collection priorities. But a large majority is in favour of maintaining current responsibilities. It is striking that new forms of organisation are welcomed especially in the field of digital



**Figure 1**  
SSG library representatives' opinions on key requirements of the SSG system  
Source: Astor et al. 2011

publications. A large majority (60 to 75 percent) of SSG libraries believe that certain institutions should focus on licensing negotiations and long-term archiving. However, they unanimously reject the notion that digital-media responsibilities should be separate from the subject and regional structure.

Key criteria of service quality, according to the SSG library representatives, are holdings records, search options, and speed of provision. No significance is attributed to frequency of use and holdings exclusivity. Over 80 percent of respondents see a direct relationship between the structure and general performance of individual libraries and how well they handle their collection focus. Close and continuous exchange with the respective subject community is also viewed as an essential prerequisite for good performance, but consideration of the demand situation is not.

In the overall assessment of the burdens and benefits, all respondents agree that active participation in the SSG system not only increases the prestige of a library but actually improves its quality in various ways. Responsibility within the SSG system, according to the written survey responses, is associated with engagement in developing innovative services and with building employee skills. At the same time, the representatives of the SSG libraries lament that the requirements and additional tasks placed on the SSG system have grown steadily in recent years, while DFG funding has not increased correspondingly. Despite this critical view of the financial and organisational feasibility of the requirements, a clear majority of respondents believe that the future SSG system should include not only scientific databases but also more diverse forms of digital publications and media, such as audiovisual media and primary research data.

### 3 Researchers' Expectations of Information Services

One key area of the evaluation was the need of scientists and scholars to be provided with literature. What expectations do researchers have for library services, and to what extent do they see them met? What forms of literature and media are especially important today and in the future, and how do they differ across scientific disciplines? What is the role of SSGs and other library services for researchers, and how they evaluate their ability to perform?

Of the 594 DFG review board members who were invited to answer these questions in an online survey, 327 responded (55 percent). Nine out of ten respondents consider the acquisition of scientific literature fundamental to their research; another 8 percent believe it is at least sometimes important, depending on the project. It is thus a very small group of researchers for whom the acquisition of literature plays only a minor role. The survey shows that research habits are dominated by the use of Internet search engines (e.g. Google) and specialised databases. This plays a much larger role today than traditional access via local or national library catalogues.

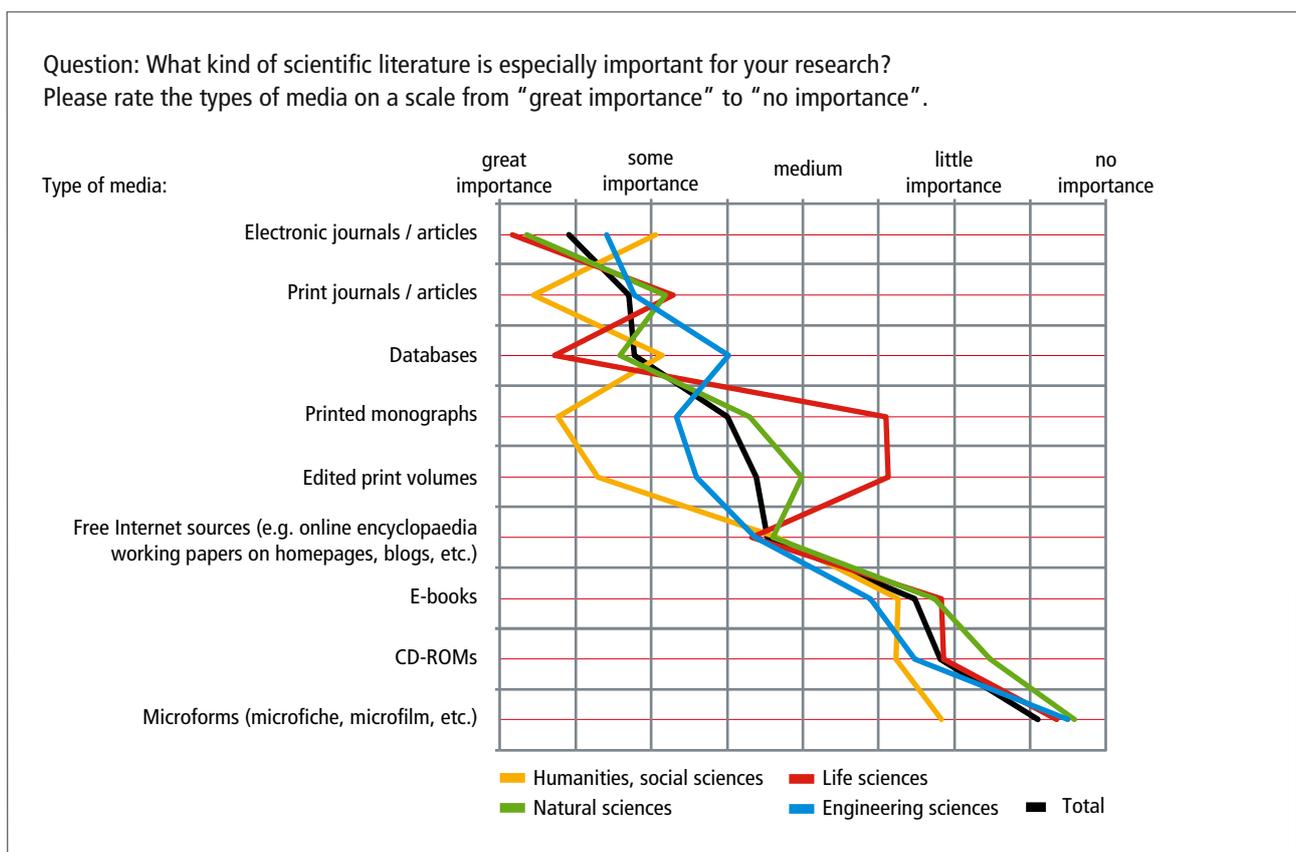
Disciplinary differences are evident in the type of scholarly literature that is most important for review board members (see Figure 2). The greatest contrast exists between the humanities / social sciences and the life sciences. While the former assign the greatest importance to printed works (journals, monographs and edited volumes), the latter are primarily interested in electronic journals and databases. Printed monographs and edited volumes play virtually no role in the life sciences. Researchers in the natural sciences also use mainly electronic publications; printed media for them are only of "some" or "medium" importance. In the engineering sciences, however, databases play a smaller and printed works a somewhat larger role. The sur-

vey makes clear that – with all the differences between disciplinary cultures – a change has occurred and continues to occur: Electronic media are now important even in the traditional “book disciplines”, and they complement, if not necessarily substitute, the printed media.

Overall, the vast majority of researchers are satisfied with their access to literature. Approximately 60 percent see only small gaps in the current access to literature. Twenty percent see their literature needs as fully met. However, with the increasing diversity of access modes (print, electronic) and the growing number of publications, new challenges arise when it comes to cataloguing and finding information. Especially life scientists complain about information overload. At the same time, however, they consider the available search tools to be generally clear and user-friendly enough that relevant literature can be found with them.

Scholars in the humanities and social sciences, who are more inclined to believe that they can maintain an overview of relevant information, are rather more critical of the search options, as are the engineering scientists.

So how does the SSG system fit into the overall system of library services in Germany? The Special Subject Collections themselves are relatively unknown. Nearly two-thirds of the review board members – representing, as mentioned, a special selection, as they are more familiar than other researchers with DFG programmes outside their own specialties – had never even heard about them before the survey. Only 14 percent know the SSG system as such; another 9 percent are aware of the SSG in their specialty (but not the overall system). For 41 percent of those review boards members who are familiar with the system, it plays a moderate or major role for their own work; for 31 percent of it is of little or no importance.



**Figure 2**

Review Board Members' opinions on the importance of different types of media for research, by discipline  
N = 315-323, Source: Astor et al. 2011

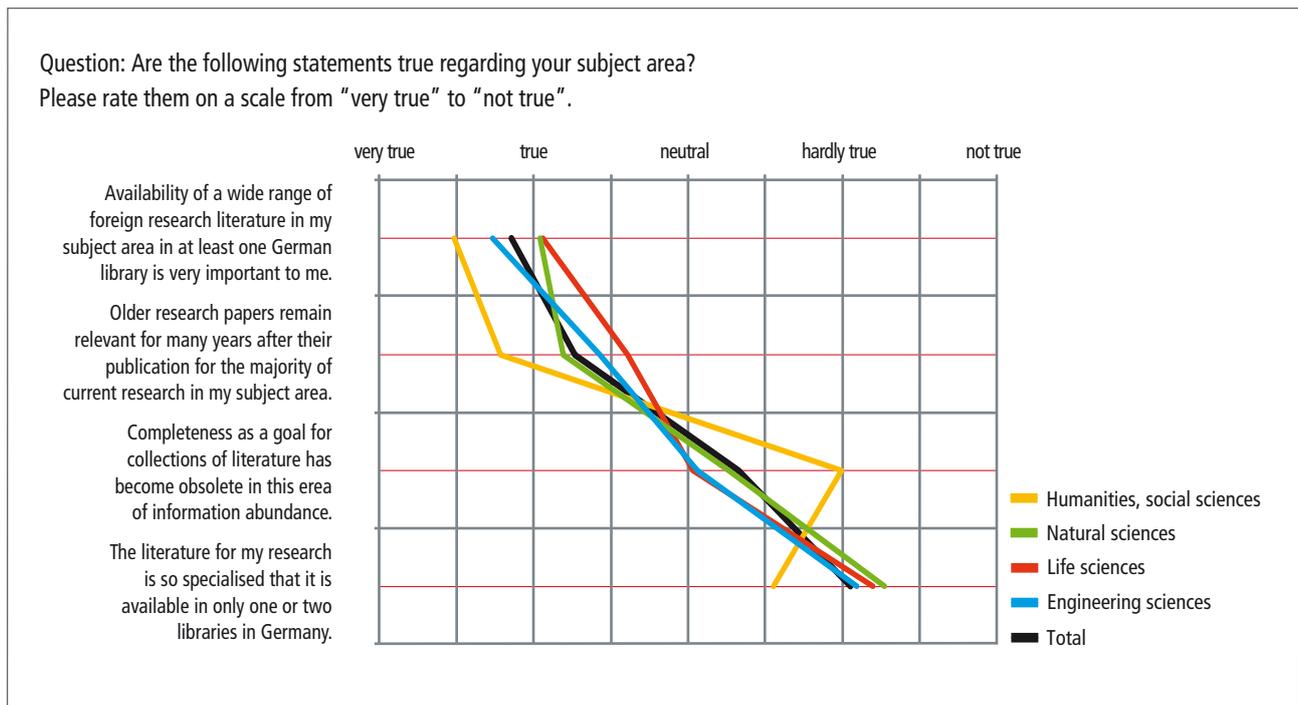
This may be related to two factors: First, the SSG system provides only certain specific services within the larger context of library services. Second, these services do not depend on users' awareness of the system.

But that the objectives of the SSG system (completeness, repository function, availability of highly specialised research literature, etc.) are considered to be current and relevant is evidenced by the fact that an overwhelming majority of polled review board members say they need a wide range of international research literature, at least at one German library, as well as older research publications (repository function).

Asked about the significance of the SSG objectives for their own subject area, review board members again differ across disciplines (see Figure 3). That said, their responses trend in the same direction: The humanities and social sciences, more than the other disciplines, expect a wide range of foreign research literature at least at one German library, want holdings that include also older literature,

and continue to insist on a complete range of literature. The other disciplines neither affirm nor deny that completism has become obsolete in the current era of information overload. They are much less of the opinion that their literature needs are so specific that only one or two libraries in Germany are able to satisfy them.

Is this a sign that the system serves especially the humanities and social sciences? In some ways, yes. The traditional strength of the system are printed publications, which are still very important in these disciplines. In all disciplines, however, great future importance is assigned to electronic publications. This holds especially in the life sciences, but the humanities and social sciences are not far behind. Open-access publications, provided free of charge to users over the Internet, are another trend in library services across disciplines. Direct access to data and content is gaining in importance as well. The SSG system will have to respond to these trends.



**Figure 3**

Review Board Members' opinions on expectations for information services, by discipline  
N = 309-321, Source: Astor et al. 2011

## 4 Trends and Options for Action

In addition to the aforementioned trends in information acquisition and provision – especially increasing digitisation – there are also other developments presenting new challenges to SSGs. They include restructuring in the library field, often associated with budget cuts, as well as increased concentration and commercialisation in the publishing sector. Similarly, new areas of science and research are taking shape outside of traditional disciplinary approaches. These changes have a direct impact on the funding practices and funded projects. DFG programmes must adjust to this new environment.

The evaluation report provides some suggestions as to how the SSG system can respond to the user interests of researchers and the demands of the trends identified. The authors emphasise four areas of action: First, they recommend a more coordinated approach to the handling of digital media. So far, the response to changing media-use habits due to increasing digitalisation has been limited to isolated and mostly unrelated measures. An area that, according to the authors, could benefit from a joint approach and common standards is the licensing of electronic publications. Second, the authors advocate a clearer definition of the requirements for SSGs. Although the objectives of the system are clear in theory, there is often uncertainty and inconsistency in practice because requirements such as “completeness” and “peak demand” are defined only vaguely. Third, the only quality assurance for the system has been the review of grant proposals. Lacking in particular are substantive standards by which to measure and ensure the performance of the system also from a specialist point of view. Benchmarking within the system and comparison with literature holdings of foreign institutions could remedy this, the authors believe. As a fourth and last point, the authors recommend a redefinition

of boundaries and the inclusion of new forms of media and communication, such as open-access documents, preprints, blogs and such, as well as primary research data. The SSGs can and should contribute their experience in structuring and cataloguing this information.

## 5 Conclusion and Outlook

The most important finding of the researcher survey is that the DFG-funded system of Special Subject Collections is part of a generally well-rated system of library services in Germany. At the same time, it is evident that its performance can be meaningfully evaluated only in conjunction with other parts of the information infrastructure. Despite this complex situation, which does not allow a simple cost-benefit analysis, the strengths and weaknesses of the SSG system are indicated by the expectations and needs which the survey has identified.

What stands out is how different the needs of the individual scientific disciplines are: on the one hand, the humanities and social sciences, where special collections, including prints, that are as complete as possible and available for the long term are still considered very relevant; on the other hand, the life, natural and engineering sciences, which rely almost exclusively on electronic journals. Representatives from all subject areas, however, emphasise the growing importance of digital publications and information services. This is probably the greatest deficiency today: Direct access to electronic media needs improving, according to the respondents. The libraries that maintain the SSG system come to a self-critical conclusion: Existing structures will reach their financial and organisational limits if digital media must be integrated to a far greater extent.

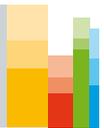
Based on the study, the DFG-appointed expert commission accompanying the evaluation has formulated recommendations for the future development of the SSG system,<sup>4</sup> which are currently under discussion in the bodies of the DFG. The proposed changes are designed to set the course for a globally unique and powerful system of library services that can meet science's future challenges in the digital age. It is obvious that a new structure and a new funding model can be successful only in close coordination with other national efforts in information infrastructure development.

## 6 Bibliography

*Astor, Michael, Georg Klose, Susanne Heinzmann and Daniel Riesenberg (2011):* Evaluierung des DFG-geförderten Systems der Sonder-sammelgebiete. Bonn.

<sup>4</sup> [http://www.dfg.de/en/dfg\\_profile/evaluation\\_statistics/programme\\_evaluation/studies/studie\\_special\\_subject\\_collections/index.html](http://www.dfg.de/en/dfg_profile/evaluation_statistics/programme_evaluation/studies/studie_special_subject_collections/index.html)

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