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Sabrina Petersohn
GESIS Leibniz Institute for the Social Sciences, Sabrina.petersohn@gesis.org

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BIBLIOMETRIC SERVICES IN RESEARCH EVALUATION: A NEW TASK AREA STRENGTHENING THE JURISDICTION OF ACADEMIC LIBRARIANS?

Sabrina Petersohn

GESIS Leibniz Institute for the Social Sciences, Germany
Sabrina.petersohn@gesis.org

Abstract

Science policy framed by audit culture relies heavily on performance measurement. This changing research environment affects higher education institutions and their scientific libraries. As service providers for research and teaching libraries need to demonstrate their added-value in front of various stakeholders. Some Library and Information Science (LIS) scholars and practitioners thus promote evaluative bibliometric services as a new service area. The question rises whether this trend to engage in evaluative bibliometrics will consolidate into a recognized professional task area in academic librarianship. Using Abbott's theoretical framework the paper asks whether academic librarians claim a professional jurisdiction on bibliometric expertise in research support services and assessment. The bibliometric practices of academic librarians in the UK and Germany are studied in a comparative perspective. The collected empirical data consists of 28 expert interviews and different types of documents. This research in progress paper reports on the theoretical framework and demonstrates how it helps to interpret and understand current developments.

Keywords: Academic librarianship, professional jurisdiction, bibliometrics, research support, Abbott

Introduction

Raising questions about the destiny and ultimate future of libraries and librarianship as a professional occupation is a recurrent theme within the profession itself and in scholarly literature (Cox & Corrall, 2013; Winter, 1988). Technological changes in telecommunication and computing result in an increasing complexity and abundance of information. This continuously challenges librarians (Abbott, 1988; Van House & Sutton, 1996). Funding cuts represent another more current threat to libraries of all types (Nicholas & Rowlands & Jubb & Jamali, 2010).
The core mission of academic libraries is the support function for their mother institution, the research organization (Mintzberg, 1979). This specific service environment has been subject to various changes as well. Changing scholarly communications as well as research practices affect the conception of academic librarians support services. These changes are partly tied to a new, managerialist form of research governance that puts publicly funded research organizations under pressure to prove their added value in research and education. Research evaluation on the national and institutional level and performance-based funding mechanisms are increasingly relying on quantitative indicators provided by the research field of bibliometrics. This call for legitimation also extends to academic libraries. As a response to these pressures libraries and librarianship continuously adapt and generate new task areas and corresponding academic library specialities (Corrall & Cox, 2013). First surveys (Corrall & Kennan & Afzaal 2013; Richter, 2011) have indicated a growing proliferation of the usage of bibliometrics in libraries research support activities.
The study aims to provide first answers as to whether bibliometric services at research libraries constitute a professional practice in the sense of Andrew Abbotts (1988) sociology of professions. To examine the nature of work related to evaluative bibliometrics in research libraries, 13 expert interviews with British and 15 interviews with German librarians have been conducted. The two countries differ in the structures of their higher education and research systems and have distinct approaches to research evaluation. Whereas the UK has a regular, national research assessment exercise (Research Excellence Framework, REF) which informs funding decisions, evaluation systems in Germany are decentralized and vary in their outcomes (Barker, 2007; Schophaus, 2008). These conditions supposedly exert an influence on the bibliometric practices in the respective library sector (Corrall & Kennan et al., 2013). Additionally, documents that indicate the

use of bibliometric methods in libraries have been collected. The data will be analysed using qualitative content analysis (Schreier, 2012) to demonstrate the nature and extent of cognitive and social claims of jurisdiction in evaluative bibliometrics as a new type of research support in libraries. This research in progress paper reports on the theoretical framework and demonstrates how it helps to interpret and understand current developments.

The paper proceeds along the following lines: To underline the relevance of the research, firstly some quantitative evidence about the proliferation of bibliometric services, specifically in the UK and Germany, will be reported. The theoretical outline is then presented, along with a brief literature review of related research in the field of librarianship as a profession. The empirical material and data analysis method will then be introduced. The final section illustrates how theory-driven categories can enhance the understanding of libraries involvement in bibliometric services by foreshadowing parts of the analysis process.

Proliferating use of bibliometrics in academic libraries

Corrall & Kennan et al. (2013) investigate the involvement of libraries in the UK, Australia, New Zealand and Ireland in bibliometric support with a view to gather baseline data on planned and currently offered services, to study factors restricting these services and to identify additional needs for professional training and education in this area. More than 50 % of the libraries in New Zealand, Australia and Ireland offer bibliometric training, compile citation reports and calculate the research impact on the level of individual researchers, academic units or the whole institution. British librarians are only primarily involved in the first two types of services. In many cases the British libraries pose exceptions. They display a relatively low share of current and planned bibliometric services compared to the other countries. This may be partly due to the fact that also single academic departments, research or planning offices or other institutional units are involved in bibliometrics and that the national research evaluation exercise, the REF, did not rely as strongly on bibliometric indicators as initially discussed. Across all countries it was evident that library staff acquired bibliometric skills and knowledge mainly on the job (in around 80% of the cases), through in-house or self-training. While bibliometric methods comprise a major research methods export from Library and Information Science, its coverage in Library and Information Science (LIS) education as opposed to its use in research is very low and does not explicitly include evaluative bibliometrics as a library service (Corrall & Kennan et al., 2013; Zhao, 2011).

A survey by Manuela Richter (2011) indicated that the engagement in evaluative bibliometrics in Germany is a fairly recent phenomenon (starting as of 1996) and represents a current or planned activity of about a third of the scientific libraries in her sample. The attainment of bibliometric skills and competences is mainly based on autodidactic learning and training on-the-job but some respondents received continuing education or advanced training through workshops or summer schools. A fraction had attended bibliometrics courses during their graduate or postgraduate degrees in LIS.

These surveys indicate that academic libraries are using bibliometric methods in a novel way. Historically, bibliometrics has been primarily used to facilitate collection development and journal evaluation (Broadus, 1977; Drott & Mancall & Griffith, 1979; Gross & Gross, 1927). While traditional bibliometric applications continue to exist (Bove, 2010; Beck & Manuel, 2008) the shift to using bibliometrics in supporting research assessment is a new development that warrants further analysis.

Library and information professionals have begun to endorse the use of bibliometrics as a new, value-adding business area for libraries (Aström & Hansson, 2012; Ball & Tunger, 2006; Gumpenberger & Wieland & Gorraiz, 2012; Herther, 2009; May, 2014; McColl, 2010). The call for librarians "to assume a more strategic role in research evaluation and its management" (Corrall & Kennan et al., 2013, p. 642) resonates through different channels: Opinion articles and case studies in practitioner and academic journals and presentations at professional conferences promote bibliometrics as a part of innovative research support services.

Research aim

The question arises whether this trend to engage in and promote evaluative bibliometrics will consolidate into a recognized professional task area in academic librarianship. Using Andrew Abbotts (1988) sociology of professions as a theoretical framework the research aims to study the

bibliometric practices in research libraries with a focus on the cognitive and social control of this type of work. The research is guided by the following research questions:

1. Are academic librarians claiming a professional jurisdiction on bibliometric expertise in research support services and research assessment?
2. How do they assert cognitive claims as scientometric practitioners? (Which knowledge bases do they draw on, how do they define research support tasks as professional problems and which professional mechanisms are used to solve them?)
3. How do they socially gain and maintain control over bibliometric practices in their workplace, the research organization, and in the public?

Through the lens of Abbott's approach we will be able to "read" the promotional activities of library professionals in the area of bibliometrics as early instances of claim-making instead of embracing them as direct indicators for a newly developing service area in academic librarianship. We will also be able to study factors that foster these jurisdictional claims. One of the most important aspects in this respect is the knowledge transfer between the academic knowledge base and professional practitioners. This will provide the necessary understanding of constraining and enabling factors in bibliometric service delivery and the competencies needed to provide these services, as Corrall & Kennan et al. (2013) have pointed out. An understanding of these aspects is required to anticipate whether a "bibliometric services librarian" will eventually join the "federated profession of librarianship" (Abbott 1988, p. 41; for an empirical analysis see further Corrall & Cox, 2013)

Theoretical framework

Abbott defines professions broadly as exclusive occupational groups "applying somewhat abstract knowledge to particular cases" (1988, p. 8). Next to professions, expertise can also be institutionalized in organizations and commodities, such as software or reference tools (Abbott, 1991). Professional work is, according to Abbott (1988), orientated toward solving problems that are amenable to expert services. The link between professions and their work is not permanent. The major stance of Abbott is to locate professions in an interrelated system: Professions constantly compete with other professions and other occupational groups aspiring to a professional status. They have to continually prove that their conceptions of the professional task at hand as well as the professional mechanisms of diagnosis and treatment are an efficient, powerful and essentially unique way of problem solving. Professions strive for exclusive control over an area of work by claiming jurisdiction on the professional task and their way of solving it. A cognitive claim to jurisdiction is based on abstract academic knowledge. This knowledge base is used to devise the professional mechanisms of diagnosis, inference and treatment and serves as a societal legitimation by reference to the cultural value of scientific rationality. The cognitive claim must be complemented by a social claim in the workplace, the public and the legal arena.

Abbott (1988, 1998) himself and other authors (Corrall & Cox, 2013; Danner, 1998; O'Connor, 2008, 2009; Ray, 2001; Van House & Sutton, 1996; Verbaan & Cox, 2014) have studied librarianship as a profession competing for jurisdiction. The historical forms of jurisdiction were influenced by the fact that the library as an organization preceded librarianship. Librarians were meant to serve the institution (O'Connor, 2008). Professional problems were thus closely related to the object of the library. The conception of the professional task thus centered on "maintaining physical custody of cultural capital" (Abbott, 1988, p. 217) and "mediating between the user and the public record of knowledge" (Winter, 1988, p.6). Librarians approached this task in three distinct ways by either focusing on access, thus providing efficient tools for information retrieval and setting up as well as managing the library collection to serve library user's needs. The other two approaches were about user education or user entertainment. Since competition in the latter two areas was very strong from the academic profession, the access jurisdiction remained the only relatively unchallenged and thus stable jurisdiction (O'Connor, 2008).

The above-mentioned social and institutional changes threaten libraries as institutions. To ensure their survival, according to Abbott's (1988) framework, they need to extend their jurisdiction to new areas of work using for example the principle of abstraction. Here the profession demonstrates that its knowledge base can be successfully used to subsume new problem areas under their existing jurisdiction. Alternatively they can employ the argument of reduction and state that the new problem is reducible to one already under the professions jurisdiction. In this way it becomes clear that knowledge is the currency of professional competition (Abbott, 1988; Van House & Sutton,

1996). Librarians understanding of the "formal and informal organization of various bodies of knowledge" (Rubin, 2004, p. 467) stems on the one hand from LIS as abstract academic knowledgebase. Information science "investigates the properties and behavior of information" (Taylor, 1966, p. 19) and is concerned with theoretical issues of information accessibility and usability (Taylor, 1966). Knowledge about retrieval mechanisms, cataloguing, classifications systems and also bibliometrics is grounded in this scientific field (Rubin, 2004). The other major knowledgebase is necessarily a professional one since information science is a very young discipline, its origins are dated to 1958 (Ingwersen, 1996). Librarianship and LIS share the common focus on value-added information by making it more accessible (Rubin, 2004). They differ in their way of approaching the information problem: For LIS it is mainly a cognitive problem with the aim to detect regularities, for librarianship it is a practical problem in need of a problem solution (Vakkari, 1996).

Re-defining the problems that make up the set of professional tasks of librarians open up possibilities for claiming new or protecting existing jurisdictions (O'Connor, 2008). O'Connor (2008; 2009) studied how information literacy provides a route to re-enhance an educational approach by librarians, thereby moving the focus away from the library as an institution and to librarians as instructors. Librarians have applied principles of reduction to subsume the collection and preservation of digital content under their access jurisdiction. Attempts at extending the professional jurisdiction of access can be seen in the emerging library roles of research data and repository management. They add to the traditional role of collection and preservation a more expansionist information and support role that connect librarians to earlier phases of the research process, thus associating them more closely with the academics (Corrall & Cox, 2013).

Abbott's theoretical perspective has been applied to locate the position of librarianship in the system of neighbouring professions (Corrall & Cox, 2013; Danner, 1998; Ray, 2001; Verbaan & Cox, 2014) and to study the professions internal structure and development (Corrall & Cox, 2013; O'Connor, 2008, 2009). Most of these studies adopt the focus on professional competition. While it is acknowledged that the interplay between professions and their knowledge base is central to understand professional jurisdictions to expertise (Abbott, 1988; Child & Fulk, 1982; Kallberg, 2012; Toren, 1975; Van House & Sutton, 1996), empirical studies that focus on knowledge transfer between librarianship and LIS in the crucial moment of the creation of new task areas and claims to that area are rare. Since a profession's strongest claim of jurisdiction over a problem is that its knowledge system is effective in the task domain an according emphasis will be placed on the way librarians draw academic knowledge from the LIS specialty of scientometrics. It will be investigated how this theoretical knowledge is transformed into bibliometric practices in academic libraries. Another focus of the analysis will be placed on the existing professional knowledge used within bibliometric services. This allows for an empirical investigation of the mechanisms of abstraction and reduction and their role as links between scientific knowledge and professional practice and knowledge. How exactly the academic knowledge base shapes professional mechanisms, such as diagnosis and treatment, remains under-theorized with Abbott. Additional concepts have to be introduced to study the interrelation between knowledge base and practitioners. Brante (2011) suggests that the meeting ground between science and professional practice consists in shared ontological models that allow abstracting from everyday knowledge. While these models (knowledge of mechanisms, structures and context) serve explanatory purposes in science, they are the basis of interventions in professional practice.

Data and methods

Qualitative data collection and analysis methods are used to provide necessary cues about the nature and extent of claim making in the area of bibliometric services.

Different data sources were collected to account for the twofold nature of claim-making: About 30 library websites containing presentations of the bibliometric service portfolio or bibliometric information and guides, nine opinion articles in scholarly and practitioner journals advocating bibliometrics as a business area within the library, around 20 powerpoint presentations at practitioner and scientific conferences demonstrating the usage of bibliometrics and containing course material for bibliometric instructions as well as a yet uncounted number of blog and mailing list entries have been collected. Due to their mostly public accessibility they inform about the nature of the social claim academic librarians place on bibliometric services.

Expert interviews with 28 British and German librarians and information scientists have been conducted to allow for insights into mainly cognitive as well as social claim-making.

The expert interviews contain questions concerning the level and nature of bibliometric training and competences (relationship to academic knowledge base), bibliometric methods and tools in use (bibliometrics as a professional practice), the type of services offered for different stakeholders (bibliometrics as a professional practice), workplace relationships with university faculty, management and administration as well as the promotion of bibliometrics within professional associations (social claim to bibliometrics as a professional task).

The interviews and documents are subject to a qualitative content analysis (Schreier, 2012), a systematic, rule-driven and theory-guided method to unravel manifest and latent meaning and underlying themes in different kinds of texts. It consists of applying an elaborate set of categories to the entire material under study which helps structuring and interpreting the material according to the research interest and prevents selective reading.

Data analysis: Preliminary insights

The last section of the paper will illustrate parts of the ongoing process of data analysis and demonstrate how the theoretical lens contributes to an understanding of bibliometric practices.

By publishing in LIS scientific and practitioner journals or presenting case studies of bibliometric services at conferences, advocates of these services put forward a social claim in the public and the workplace. "Bibliometrics is an ideal field for academic librarians to develop and provide innovative services for both academic and administrative university staff. In so doing librarians make sure to take an active part in the development of new strategies and in fostering innovation." (Gumpenberger & Wieland et al., 2012, pp.181-182). Taking up strategic roles in the curation of scholarly knowledge (McColl, 2010) shall be based on "Better understanding of our own researchers: We know where they publish, we know what they cite, we know something about their impact." (Gerritsma, 2013). This should move away the library from administrative roles in research assessment (Crawford, 2012; McColl, 2010) to a more active engagement with respect to fulfilling complex information needs of users by means of advocacy and consultation (Herther, 2009). Libraries might even be able to generate additional income by offering bibliometric analyses to external clients liable to charges (Ball & Tunger, 2006; Gumpenberger & Wieland et al., 2012). Theory-driven categories serve to structure these propositions into professional problem definitions and suggested treatment options. Bibliometrics can be aligned within the range of information problems: What do the measures mean, which data sources are available etc. Promoted tasks can be categorized as information and consultancy tasks with a tendency towards an exclusive treatment: This means processing requests and demands by scientists or university management and delivering comprehensive solutions, such as the trend and perception analyses proposed by Ball and Tunger (2006). Treatment options are scaled along varying degrees of library engagement and this claim ranges at the upper end of the scale. According to Abbott (1988) these treatment options are based on abstract academic knowledge and literature suggests that "there are a number of reasons for having university libraries being the organizational locale for bibliometric activities. One is that bibliometrics is an important part of LIS research, which makes it quite natural to apply it in professional practice." (Aström & Hansson, 2012, p.3). The operationalization of the knowledge base for cognitive claims accounts for this and contains an academic knowledge base category with subcategories related narrowly (scientometric journals, conferences) and more widely to scientometrics (f.e. general statistics background). This knowledge base is complemented by a professional one rooted in librarianship, with subcategories such as "knowledge of scientific communication processes", "handling databases", "information retrieval skills" and "bibliographic control/metadata". Interestingly, the claims put forward in the social arena are mainly based on cognitive claims that relate to the professional knowledge base instead of abstract bibliometric knowledge: "Librarians are used to work with metadata, search engines and databases" (Gumpenberger & Gorraiz, 2013). This is striking since many of the advocates and pioneers of bibliometric services have an information science background which is not made a prominent prerequisite for their claims. Instead there are indicators for abstraction, suggesting that bibliometrics can be co-opted as a new type of work under the existing professional knowledge base and access jurisdiction: "Libraries already collect necessary content (publications) and license required tools (databases)." (Gumpenberger & Gorraiz, 2013).

The question now arises whether the cognitive and social claims of this subset of the profession in the social arena align with bibliometric practices at the workplace. Answers from the expert

interviews suggest that the academic knowledge base assumes a more important role as publicly announced. A background in statistics or the sciences is widely considered as necessary. No formal training in bibliometrics was available to most of the participants, so on- the -job training and self-education prevail. Some resort to keeping up-to-date via reading scientific journals in the field and attending conferences if possible. The distinction made in the category system between the academic bibliometric knowledgebase and the professional knowledge base with close ties to the topic of bibliometrics (such as practitioner journal articles or practitioner conferences addressing bibliometrics within the library) allows to look for shared ontological models and concepts between the academic knowledge base and professional knowledge developed and shared in the context of bibliometric practices.

Further analysis has to confirm the hunch that a stable cognitive jurisdiction has not yet been achieved in both countries: "To bring it to the point: I can only offer cursory bibliometrics." (Expert participant D B1, own translation).

Many more issues such as the qualification of offered services as science-based or application – oriented or the level of engagement with respect to demands and resources and rationale of services as well as questions of jurisdictional competition with other bibliometrics providers within or outside the university are waiting to be explored in the course of the analysis. The claim-making perspective appears to be helpful in identifying enabling and restricting conditions for the provision of bibliometric services as well as reflecting upon a new library role.

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