The Evaluation of Scholarly Books as a Research Output. Current Developments in Europe

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Abstract

The relevance and value of books in scholarly communication from both sides, the scholars who chose this format as a communication channel and the instances assessing the scholarly and scientific output is undisputed. Nevertheless, the absence of worldwide comprehensive databases covering the items and information needed for the assessment of this type of publication has urged several European countries to develop custom-built information systems for the registration of books, weighting procedures and funding allocation practices enabling a proper assessment of books and book-type publications. For the first time, these systems make the assessment of books as a research output feasible. This paper resumes the main features of the assessment systems developed in five European countries / regions (Spain, Denmark, Flanders, Finland and Norway), focusing on the processes involved in the collection and processing of data on books, weighting, as well as their application in the context of research funding assessment.

Conference Topic

Science policy and research assessment and/or University policy and institutional rankings

Introduction

Scholarly books are key for the communication of research outputs in Social Sciences and Humanities (Hicks, D., 2004; Thompson, 2002; Engels, Ossenbklok & Spruyt, 2012). At the same time, performance-based assessment and funding allocation systems, as well as evaluation exercises at an individual level are widespread throughout Europe, affecting all instances of universities and research institutions (Hicks, D., 2012; Frølich, N., 2011). Despite developments such as Book Citation Index (Adams & Testa, 2011) there still exist a clear need for comprehensive databases collecting 'quality' indicators for books and book publishers. Quality in books is a multi-faceted concept and translating it into indicators is a

difficult task, in many occasions closely oriented to the specific research and assessment policies of each country. This diversity at the policy level is matched by an intrinsic heterogeneity of scholarly books themselves (e.g. disciplines, languages, formats, peer review and other editorial standards, etc.). In the past, the vast variety of books has made their reliable and comprehensive registration notoriously difficult and, consequently, their inclusion in research assessments unrewarding. By introducing the information systems presented in this paper, five European countries/regions have sought to redress the balance.

Objectives

The aim of this paper is to compare different approaches for assessing books across Europe. To do so, the context of each assessment exercise -where books evaluation occurs- is presented. The existence of valid peer review processes, the prestige of book publishers or the division in tiers according to the quality of the communication channel and the specific features of each discipline are some of the elements on which Spain, Denmark, Flanders, Finland and Norway have developed assessment systems for books. These developments are the result of applied research and also the object of a research-in-progress. This paper summarizes the main features of the current registration and assessment systems developed in the five countries in their present state. After a detailed discussion of each system, preliminary conclusions are presented, as well as a perspective on possible future developments.

Results

Scholarly Book's evaluation practices at the micro level

Spain

Scholarly books are taken into account in various assessment processes on the research outputs of scholars. As an example, both ANECA and CNEAI (Spanish assessment agencies) include various aspects of books and book publishers among their assessment criteria at the individual level. One of them is the prestige of the publisher (the latest, being CNEAI Resolution of November 26, 2014, but included as quality criteria various years backwards). Given the lack of specific data on the prestige of book publishers, the Research Group on Scholarly Books (ÍLIA) at CSIC developed Scholarly Publishers Indicators (SPI) on the grounds of the research conducted in previous years (Giménez-Toledo & Román Román, 2009). SPI ranks the perceived prestige of book publishers in the social sciences and humanities (SSH), both Spanish and non-Spanish, according to the scores resulting from an extensive survey to Spanish lecturers, researchers and scholars specializing in all fields of SSH. The system is based on more than 3,000 usable responses in 2012 and almost 3,000 in 2013. The responses are given to the question of which are the first, second or third (and from first to tenth in the 2013 edition) most prestigious book publishers in the responder's field; only specialists with positive assessment of their research are susceptible of being included among the respondents. Once collected, the responses are summarized using a simple weighting algorithm based on the share of scores in each position (1^{st}, 2^{nd}, etc.). The results are summarized in an indicator: ICEE. This indicator serves as a ranking item, both at the general level and specifically for each discipline, since the assigned weights are related to each discipline's distribution of scores (Giménez-Toledo, Tejada-Artigas & Mañana Rodríguez, 2012). The weighting procedure involves no arbitrary intervention from its designers and permits certain normalization per discipline. The ranking is publicly available at (http://ilia.cchs.csic.es/SPI/) and the users can access both discipline-level and general rankings for Spanish and non-Spanish publishers.

The main advantage of this system is the wide population on which it is based (more than 11,000 experts), while the main disadvantage lies in the difficulty to control for possible bias in the surveying process. The ranking was first used for assessment purposes in 2013 and is increasingly being included in the current evaluation framework as a reference for the assessment of SSH books and book chapters, together with other criteria. It is important to note that SPI is a reference tool for assessment exercises. It is meant to inform, not to perform, the research evaluation.
SPI also includes interactive charts as well as a 'specialization profile' of publishers obtained from the DILVE database (collecting the editorial production of Spanish publishers). Specialization is a point where evaluation agencies may focus their attention. In progress is the research into the use of different peer review systems with the use of surveys to book publishers as well as information about the transparency of their websites. These are qualitative indicators which aim is to serve as supporting information in the assessment processes.

Book's evaluation practices at meso or macro-level

Denmark

The performance indicator model (BFI/BRI, the Bibliometric Research Indicator) was started up in 2009. For each year 68 groups of academics selected by the Danish Research Agency from the Danish universities list all available knowledge resources and assign points to peer reviewed journals, publishers and conferences that publish scientific material authored by Danish academics from the previous year. Each of the 68 groups represents an academic field or specialty. The bibliometric research indicator takes into account published peer reviewed research and review articles, monographs as well as anthology and proceedings papers published by the Danish research institutions, which provide the input metadata for the system. In the period 2008–2012 proceedings (and anthology) papers were assigned .75 points. Journal articles received 1.0 point in Level 1 journals and 3.0 points in Level 2 journals, i.e. the leading journals of a field as judged by the relevant researcher group and covering maximum 20% of the field journal output. From 2013 proceedings papers and articles receive similar points as journal articles, depending on the level of the conference or publisher, as assessed by the relevant academic group. Monographs are assessed according to two publisher levels, Level 1 (5 points) and Level 2 (8 points). Anthology papers and chapters receive 0.5 and 2 points depending on publisher level. For each document the points are fractionalized (min 0.1) according to number of collaborating universities, including non-Danish universities. The model encourages collaboration by multiplying the institutional fraction by 1.25. The previous year's cumulated points per university is used to distribute a substantial portion (in 2013 it was 25%) of public basic research funding among the universities the following year. Only the cumulated results are publicly available per university and major academic area, such as the Humanities, Social Sciences, Natural Sciences or Medicine/Health sciences via the Danish Research Agency's web page (https://bfi.fi.dk/). The intermediate or more detailed publication point distributions and document lists per unit and department will be publicly accessible from 2015. This is in difference to Norway where no multiplication of fractions takes place and all the documents and their point assignments are transparent as well as publicly accessible through an open access database. In the Finnish system and in Belgium the Flemish BOF-key applies whole counting at the institutional level (Debackere & Glänzel, 2004; Engels, Ossenblok & Spruyt, 2012). The output of the Danish BRI system can, as a spin-off, be used for assessment purposes. See also Ingwersen & Larsen (2014).

Flanders (Belgium)

The Flemish Academic Bibliographic Database for the Social Sciences and Humanities ('Vlaams Academisch Bestand voor de Sociale en Humane Wetenschappen', or VABB-SHW) has been developed to allow for the inclusion of the peer reviewed academic publication output in the Social Sciences and Humanities (SSH) in the regional performance-based research funding model. As such, in 2015 the VABB-SHW accounts for 6.62% of the University Research Fund (or BOF), distributing over 150 million euro per year over the five universities. As the BOF-key is also re-used for the distribution of other research funding, the actual impact of the VABB-SHW is even greater. In a secondary role, the VABB-SHW supports research assessments at various levels. As all information in the VABB-SHW is available to both the universities and the Flemish national science foundation (FWO), data is harvested and integrated into each institution's repository. In a third role, the VABB-SHW's comprehensive publication coverage (peer reviewed or otherwise) allows for in-depth research on publication practices in the SSH (Engels, Ossenblok, & Spruyt, 2012; Verleysen, Ghesquière, & Engels, 2014). The database covers the comprehensive publication output of academic research in 16 SSH disciplines and 3 general categories. Three types of book publications are included: 1° monographs, 2° edited books, 3° book chapters, weighted 4, 1 and 1 for the funding model, respectively. Journal articles also receive a weight of 1 and proceedings papers a weight of 0.5. No prestige levels are distinguished. For funding calculation, a ten-year timeframe is used. For research purposes, coverage extends back to the year 2000. For books, four aggregation levels are in use: 1° publisher names (as collections of ISBN-roots), 2° book series, 3° books published in Flanders and labeled as Guaranteed Peer Reviewed Content (GPRC-label (Verleysen & Engels, 2013), and 4° individual books identified as peer reviewed by the Authoritative Panel ('Gezaghebbende Panel' or GP, a committee of full professors installed by the government and responsible for decisions regarding the content of the VABB-SHW). The information system is fed through a yearly upload (May 1st) of all SSH publications from the two preceding years newly registered in the five universities' academic bibliographies. Data is managed at the Flemish Centre for R&D monitoring (ECOOM), University of Antwerp, through its custom-built Brocade library services (http://en.wikipedia.org/wiki/Brocade_Library_Services). Each individual publication receives a unique identifier, contributing to maximum granularity and reliability of the data both for funding calculation as well as for retrieval and research. Consolidation processes making use of algorithmic identification allow a systematic de-duplication of records that are submitted more than once. Publications are identified algorithmically at the publisher, series or journal level by their ISBN-prefix or ISSN. Each year all new publishers, series, books and journals are classified by the Authoritative Panel as peer reviewed and presenting new content (or not). At the public interface www.ecoom.be/en/vabb, online access is provided to the database itself, lists of publishers, journals and series, explanation of procedures, FAQ's, and background information.

Finland

In Finland, the use of publications in the performance based funding model is based on two components: the publication metadata consisting of the entire output of universities, and a quality index of outlets. Universities have their own registries of publications, including peer-reviewed and non-peer-reviewed articles in journals, conferences and anthologies, as well as monographs. Universities report their publication data, with full bibliographic details, once a year to the ministry of education and culture (Puuska 2014). The publication data is processed (including deduplication) at CSC - IT Centre for Science, which is a company owned by the ministry. The bibliographic details of publications are matched against the list of serials, conferences and book publishers classified in three quality levels by 23 expert panels

coordinated by the Federation of Finnish Learned Societies (FFLS). This quality index of outlets is called Julkaisufoorumi (JUFO) -luokitus (Publication Forum Classification). The universities' publication metadata collected by the ministry is known as OKM-julkaisuaineisto (MinEdu publication data).

In the Publication Forum classification, published for the first time in 2012, the level 2 comprises 20 % of the leading serials and conferences and 10% of the leading book publishers (Auranen & Pölönen, 2012). Most peer-reviewed outlets belong to the level 1, and those that fail to meet the criteria of scientific publication channel are listed as the level 0. For serials there is also a level 3, in which are classified 25% of the level 2 titles, but in the funding model it is not differentiated from the level 2. Updated classifications have been published in the beginning of 2015. In the new classification, as in Denmark, the level 2 serials and conferences comprise at most 20% share of the world production of articles in each panel's field. The level 3 was added also for book publishers. The new classifications will be applied on articles and books published in 2015. The classification of book publishers is used specifically to determine the level of monographs and articles in anthologies when the publication does not come out in a book series or the series has not been classified. The main rule is that the Finnish book series are classified, while those of foreign book publishers are not classified separately.

In the current funding model for 2015 and 2016, which still uses the 2012 Publication Forum classifications, 13% of all budget-funding is allocated on basis of publications (Ministry of Education and Culture, 2014). The peer-reviewed articles in journals, conferences and anthologies published in the level 0 channels will have the weighting coefficient 1, those of the level 1 have the coefficient 1.5, and for the level 2 and 3 channels the coefficient is 3. The weighting coefficient of non-peer-reviewed (scholarly, professional and general public) articles is 0.1 regardless of outlet. Weighting coefficient of peer-reviewed monographs is four times higher than that of articles: 4 in the level 0, 6 in the level 1, and 12 in the level 2. For non-peer-reviewed monographs, as well as all edited volumes, the weight is 0.4. There is no fractionalization of co-publications at the institutional or author level. The Ministry has instituted a working-group to determine the weights and calculation method of publications used in the funding model from 2017 onwards.

The MinEdu publication data, which covers Finnish universities output since 2010, is openly available through Vipunen-portal (www.vipunen.fi) for statistics, as well as Juuli-portal (www.juuli.fi) for browsing the publication information. The quality index of outlets is openly available on the Publication Forum website (www.tsv.fi/julkaisufoorumi).

Norway

The Norwegian model (Sivertsen, 2010; Sivertsen & Larsen, 2012) consists of three main elements: 1) A national database containing comprehensive and unified bibliographic metadata for the peer reviewed literature in all areas of research; 2) a publication indicator making field-specific publishing traditions comparable in the same measurement; and 3) a performance based funding model.

The national database is called CRISTIN (Current Research Information System in Norway). It is shared by all research organizations in the public sector: universities, university colleges, university hospitals, and independent research institutes. The institutions provide quality-assured and complete bibliographic about articles in journals and series (ISSN), articles in books (ISBN), and books (ISBN) that can be included according to a definition of peer-reviewed scholarly literature.

The indicator is based on a division of publication channels (journals, series, book publishers) in two levels: level 1 and level 2. Level 2 contains the most selective international journals, series and book publishers and may not contain more than 20 per cent of the publications

worldwide in each field of research. Articles in journals and series are given 1 point on level 1 and 3 points on level 2. Articles in books (with ISBN only) are given 0.7 1 points on level 1 and 1 point on level 2. Monographs are given 5 points in level 1 and 8 points on level 2. The points are fractionalized in the level of institutions according to the institution's share of contributing authors.

Although less than two per cent of the total expenses reallocated by the use of the indicator in Norway, it has attracted a lot of attention among researchers and resulted in increased productivity (Aagaard et al., 2014).

Conclusions

One of the first conclusions which stand out is the lack of use of citation metrics in any of the five systems. This might be the result of a lack of fit, lack of acceptance or the irrelevance as a quality indicator for books of the traditional measures for journals. Another element is the incomprehensiveness for many scholarly fields of the current citation indexes. Equally remarkable is the clear convergence as regards criteria and procedures among the Nordic countries and Flanders, not only in the registration of books, but also in the funding and/or assessment policies making use of book data. For assessments, in Northern Europe data is used mainly at the institutional level, despite its collection and registration being nationally coordinated in the context of a performance-based research funding system. This is clearly not the case for Spain, where data is used for assessments at the individual level, while university budgets are not calculated in a performance-based, centralized system. Also, the different policies show great divergences regarding the much higher weight given to scholarly books in the Nordic systems, while in Spain the tendency is just the opposite (more weight is given to papers than is to books). It is also remarkable that the most frequently used aggregation level is that of book publishers, although in the case of Flanders the Guaranteed Peer Reviewed Content-label allows for the inclusion of individual books in the regional system as well, while Finland currently counts with a Peer Review Mark similar to the already mentioned, making feasible that possibility. This involves that the expected coherence in the practices underlying to the concept of quality is sufficient at the level of book publishers, since the congruent use of this level of aggregation (from which the positioning in tiers of each individual contribution is derived) is common to all systems analyzed. Nevertheless, future developments may well see a stronger interest in the registration of book data at lower aggregation levels as well (e.g. that of the book series), as this evidently implies a more fine-grained approach to the comprehensive registration and the validation in assessments of books. In Spain, that specific level of aggregation (book series) is the object of a current initiative by UNE (University Presses Union) in collaboration with three research teams.

Finally, it will be interesting to see whether the on-going internationalization of research and the growing collaboration between scholars worldwide will contribute to a greater harmonization at the European level of the assessment systems for books and book publishers. Such developments could indeed provide scholars with new opportunities to assert the (often under-rated) value of their books, although some hypotheses regarding the role of the book in the scholarly communication shall be addressed in the close future.

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Table 1. Comparison of the main features of the information systems for the assessment of books.

ITEM	SPI	BFI/BRI*	VABB-SHW	MinEdu Data/JUFO	CRISTIN
Country	Spain	Denmark	Flanders	Finland	Norway
Reasons for its development	Assessment at the individual level and research evaluation (unknown uses at institutional level)	Research funds allocation among universities and measures of research activities at institutional levels.	Inclusion of the peer reviewed scholarly publication output in the regional performance-based research funding model.	Funding allocation, research information and quality promotion.	Research information and fund allocation in the public sector. National statistics.
Object of study/ aggregation level	Book publishers / specialization from book-level information.	Book publishers, books and book parts (anthologies); journal articles and proceeding papers.	Book publishers, book series, GPRC**-labeled books published in Flanders and individual books assessed by the Authoritative Panel.	Book publishers and monographic series / peer reviewed monographs and articles in books at university level.	Bibliographic references to all scholarly publications in books, book articles and journal papers.
Stage	Already published and applied in assessment.	Already published and applied in assessment and funding since 2009.	Applied for funding allocation and institution-level assessment since 2010.	Published in 2012 and applied in funding since 2015.	Applied in assessment and funding since 2005.
Coverage	All Spanish and non-Spanish book publishers mentioned by experts in each field.	All scholarly publishers worldwide with publications from Danish scholars since 2009.	The comprehensive peer reviewed publication output of academic research in the Social Sciences and Humanities since 2000.	National and international scholarly book publishers and Finnish book series	All scholarly publishers worldwide with publications from Norwegian scholars since 2004.
Information feeding the system	Survey to experts and book publishers / database analysis.	Metadata for scholarly publications from all Danish universities.	Yearly upload from the academic bibliographies of the five Flemish universities, of all newly registered publications of the previous two years.	Metadata for universities' scholarly publications and new additions suggested by researchers	Metadata for scholarly publications from all Norwegian institutions in (CRISTIN).
Information processing	Votes from respondents are summarized in the ICEE indicator. DILVE database is statistically analyzed. Surveys to book publishers are summarized. Done by ILIA research group (CSIC).	Quality level assessments of publishers and journals by 67 topical peer groups plus a central coordination council, providing authoritative lists from which each publication is assigned a score by the system.	Data input from the universities processed by ECOOM / University of Antwerp Scientific steering and assessment of publication channels by a central Authoritative Panel.	In order to assign weight to universities' publications in the funding model, the metadata of publications is collected and matched against the list of serials, conferences and book publishers classified in quality levels by 23 panels.	Input from the institutions of metadata for individual publications is connected to a centrally monitored dynamic register of approved scholarly publication channels (journals, series, and book publishers)
Operative results	Ranking of book publisher's prestige / specialization charts / peer review info.	Annual number of publications and number of publication points per university and per larger academic topic.	A growing database of 125,000 scholarly peer reviewed and other publications. Publicly available lists of assessed book publishers, book series, journals and conference proceedings.	List of quality-classified outlets and database of universities' all publications from 2011 that can be analyzed by type, field and outlet.	A database of so far 70,000 scholarly publications that can be analyzed by type, field, language, institution, and publication channel
Use for research assessment and aggregation level	Used at the individual level by ANECA and CNEAI, two Spanish assessment agencies.	Funding allocation in the following year; Institutional level; also used as promotion or 'extras' factor (local incentive). Individual level in the future.	Funding allocation to five universities; support of internal assessments at individual universities, and assessments by the Flemish national science foundation (FWO)	Funding allocation to universities; internal assessment and planning at universities (also funding allocation); use for assessment at individual level is discouraged.	Funding allocation, stats for field and/or institution research evaluation, administrative information at institutions and annual reports.
Public availability	Yes (from 2012)	Yes (from 2015)	Yes	Yes	Yes (from 2004)
Book / paper weighting	Approx. 1 to 3 (as defined by assessment agencies, but not by SPI)	From 5 to 8 and from 0.5 to 2 (anthology items) and from 1 to 3.	From 4 to 1 and from 1 to 0.5	From 0.4 to 12 and from 0.1 to 3.	From 8 to 3 and from 3 to 1.

* BFI/BRI = Bibliometric Forskningsindokator / Bibliometric Research Indicator, **GPRC = Guaranteed Peer Reviewed Content

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