

What scholars think about open access.

An overview of the developments in scholars' awareness and attitude towards open access publishing between 1992 and 2014.

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1. Introduction

1.1 Introduction

This thesis will give an overview of research that has been done about scholars' attitudes towards open access publishing and to determine whether these attitudes have changed over time. To come to a good starting point it is necessary to go back in time and start by explaining a little bit about the context of this research.

The 'Open Access Movement' started as a reaction to the serials' crisis in the nineteen-eighties. The prices of subscriptions to scholarly journals increased so much that even the research libraries with the biggest budgets could not pay them anymore. This crisis was especially hard on libraries and universities with a small budget, such as those in developing or emerging countries.¹ Therefore scholars started to think of new ways to produce and distribute scientific journals. The main problems that these researchers saw were the time and money it cost to produce the paper journal and to distribute it. These problems could be solved if the journals were produced and distributed electronically. An article could then very quickly be sent from the author to the editor, who in turn could pass it on to peer reviewers, who could then send it back and so on. This would increase the speed with which an article could be made ready for publication. The finished journal could then be sent to subscribers in various electronic formats, relevant articles could then be printed by the subscribers. These new ways of distributing would all be cheaper than mailing a paper copy to the subscribers.² Already since the nineteen-sixties researchers were exploring the possibilities of networked computers. In August 1969 Advanced Research Project Agency Network (ARPANET) was launched by the U.S. Department of Defence, this network was one of the first progenitors of the internet as we know it today. As developments went on there were more networks launched, such as the Joint Academic Network (JANET) by JISC in 1981. *Psycology*, the first open access journal, was already launched in 1989 by Stevan Harnad, who was from the beginning an advocate of open access publishing. This was the first of many more, the number of electronic journals and open access journals increased since in 1991 the World Wide Web was launched. The World Wide Web was at this time not yet accessible for everyone, but this did mark a new era.³ With the emergence of the internet electronic journals actually became digitally accessible from computers that were connected to

¹ F. Salager-Meyer, 'The open access movement or "edemocracy": its birth, rise, problems and solutions', *Ibérica*, 24, 2012, pp. 57-58.

² J. Senders, 'The Scientific Journal of the Future', *The American Sociologist*, 11, 1976, pp. 160-164.

³ [http://oad.simmons.edu/oadwiki/Timeline before 2000](http://oad.simmons.edu/oadwiki/Timeline%20before%202000) (8 October 2014)

the internet. At the beginning these publications were still called 'electronic journals'; whenever this term is used in this thesis it will refer to journals that are digitally available via the internet in contrast to print. Later on the term 'electronic journals' was no longer sufficient. More and more journals started to appear in digital form as well as in print, this means that there was no longer a contrast between these forms. The contrast was in the fact that some journals were freely accessible via the internet and for others a subscription was required. This shows a transition in the way publishers and scholars think about the cost of scientific knowledge. The fact that scientific knowledge could be made available on the internet for free was for some a reason to believe that this was the way it ought to be. Already in 1992 Stevan Harnad, who launched the first open access journal, wrote about the possibilities of the electronic journal. Like many other scholars around that time he wrote about the possibility for peers to comment on articles, either as part of the peer review process or after publication instead of writing a letter to the editorial board. Another opportunity that Harnad saw was to make all the information accessible to every scholar. He compared access to the internet to making a phone call, you only pay for the connection not for the content of the phone call. He anticipated the response of critics who would say that scholarly articles are not the same as phone calls, there are peer reviewers, editors, and publishers involved and the articles have to be preserved. Harnad already had a counterargument for this, namely that the institutions that provided funding for research would then also become responsible for funding publications. Institutions would pay for the expenses that would be needed to publish the article and reader access to the articles could then be gratis.⁴ Harnad saw the rise of the internet as the opportunity to change the imperfections in scholarly publishing that had previously caused the serials crisis. Other scholars did not recognise this, or were simply not aware of these possibilities that came with the new technologies. The open access discussion really began sometime in 1992, but only among a small group of scholars. The majority of scholars only heard about open access much later, for example through the Budapest Open Access Initiative in 2002. The initiative was to remove the access barriers to scholarly knowledge so that anyone who is connected to the internet can access, use and reuse it. The only constraint in copyright being that the author is granted the control over the integrity of the work and the right to be properly acknowledged and cited.⁵ A year later the Berlin Declaration of Open Access

⁴ S. Harnad, 'Interactive Publication: Extending the American Physical Society's Discipline-Specific Model for Electronic Publishing', *Serials Review*, Vol 18, 1992, pp. 4.

⁵ <http://www.budapestopenaccessinitiative.org/read> (8 October 2014)

to Knowledge in the Sciences and Humanities was launched. This builds upon the Budapest Open Access Initiative, the organisations that signed it want to promote open access with funding organisations and to make sure that open access is practically feasible.⁶ In the same year, 2003, the Directory of Open Access Journals was launched in Sweden.⁷ All open access journals that are published are collected in this directory that wants to improve access to them.⁸ From this point onward more and more open access journals have been launched such as Plos and BioMed Central. Traditional publishers have also started to offer hybrid open access journals, and thus it became more common for authors to pay for open access.⁹

In the last few years open access has become an increasingly important part of scholarly publishing. There is now an ongoing discussion about open access within the scientific community and in several governments. The British government has already mandated scholars to make all their work available through gold or green open access after the recommendations in the 2013 Finch Report. This has stirred up the discussions about open access even more, since there are other governments which want to follow the British lead.

This thesis will therefore give an overview of the opinions that have been collected in survey studies about open access publishing that have been conducted since 1992. The aim of this thesis is to show the developments in open access publishing, and scholars' attitudes and awareness about it. Throughout the years many studies have been conducted to find out how aware scholars are of electronic or open access publishing. The awareness of open access is of course something different than the awareness of the possibility of electronic publishing. The latter was just a new publishing technology but open access is the ideology to make knowledge freely available to researchers and the public. This is an ideology of which the awareness started much later as described above. These studies also sought to find out scholars' attitudes in regard to publishing in general but also in regard to green and gold open access. These different studies do not only show the developments in scholars' awareness and attitude, but they also implicitly show how open access publishing has changed over time. Therefore this thesis aims to not only give an overview, but to prove through this overview that changes and developments in open access publishing have caused scholars' attitudes and awareness towards open access publishing to change over time.

⁶ <http://openaccess.mpg.de/Berlin-Declaration> (8 October 2014)

⁷ http://oad.simmons.edu/oadwiki/Timeline_2003 (8 October 2014)

⁸ <http://doaj.org/about> (9 October 2014)

⁹ http://oad.simmons.edu/oadwiki/Timeline_2004 (8 October 2014)

1.2 Method

Since 1992 several surveys have been conducted by researchers who wanted to gain insight into scholars' attitudes and opinions, first about electronic journals and later more specific about open access journals as explained in 1.1. All of these surveys had a slightly different focus, on the other hand a lot of the different aspects that are important in open access publishing came up in most of the surveys discussed here.

To make a selection of these surveys it was important to map the research that had already been done. In 2010 a somewhat similar study was done by Jingfeng Xia. In this 'Longitudinal Study of Scholars Attitudes and Behaviors Toward Open-Access Journal Publishing' he studied the outcomes of twenty survey studies that were conducted in the period 1992-2008. Xia analysed the raw data that was collected during these surveys. However, most of these surveys were conducted by different researchers, therefore the questions were not all the same, nor were the possible answers on multiple choice questions. The method that Xia chose to be able to analyse these data was to normalise them in order to make them comparable. Only after the normalisation process it was possible to select and analyse the data that was relevant. Unfortunately a lot of interesting information was lost in the normalisation process as only the questions that were similar in all the surveys, and of course the answers that responded to those questions, could be selected. However, because his study uses several different surveys that have been conducted throughout the years Xia was also able to discover some gradual changes. The results can for example show whether awareness of OA among scholars is increasing or declining and how much. For this example the results show that in the 1992 survey only 50% of the scholars responded "yes" to the question: "Do you know about the existence of an OA journal in your field?". In the 2008 survey this percentage increased to more than 85%, so the awareness has indeed grown over the years.¹⁰ Unfortunately this only clarifies that scholars know that OA exists, not how much they know about it or what their attitude is, nor about the differences in fields. Because of the normalisation process only a small part of the results could be used in Xia's research. The results of one survey might have shown for example the differences in awareness of open access per research field, but because of the normalisation process this was not part of Xia's study. Therefore some of the surveys that he has looked at will be analysed here again using a

¹⁰ J. Xia, 'A Longitudinal Study of Scholars Attitudes and Behaviors Toward Open-Access Journal Publishing', *Journal of the American Society for Information Science and Technology*, 61, 2010, pp. 617-620.

different method. In addition to the studies that were used by Xia there will be some new studies, because especially in the last four years a lot of new research has been done to this subject. Of the studies that were done in the period 1992-2008 only some have been selected here again. Only the first one and after that the studies that had most respondents and were available either in open access or through the Leiden University Catalogue, see Table 1. Unfortunately a few studies that would have been very interesting could not be taken up in this thesis due to the fact that they were not accessible through these ways. This explains possible time gaps in between the studies that are part of the data of this thesis. For the last four years there is almost one study selected per year, except for 2012. The study that was selected for 2011 had very few respondents, however this gave a different perspective that was an interesting addition to the selection.

Survey time (referenced to)	Source	Number of respondents
1992	Shamp, 1992	81
1997	Speier et al., 1999	300
1999	Swan & Brown, 1999	2500
2004	Rowlands et al., 2004	3787
2007	Brown & Swan, 2007	2550 (2250 researchers, 300 librarians)
2010	Dalmeier-Thiessen et al., 2011	38358
2011	Kocken & Wical, 2013	105
2014	Frass et al., 2014	7936

Table 1: Overview of studies used in this thesis.

All of the reports of these studies were systematically summarised. All of the formal details and a short description of the context is written in the introduction of the summary. Then all of the results that are relevant for this thesis are summarised in the next section of the summary. Conclusions were summarised if there was a very clear conclusion to the study. In chapter two the summaries will be presented together with an analysis of the topics that were important in the corresponding study. The focus of the analysis lies on the following points:

- Awareness of OA and supposed benefit to the field;
- OA and career advancement;
- Scholars' preferences and needs in publishing;

- Green versus gold open access;
- Quality and peer review in OA;
- Cost of OA and funding;

The analysis will represent which of these topics are important in the analysed study and what the main points are concerning these topics. This will give a more detailed overview of what scholars' attitudes towards these different aspects are, and can therefore show more specifically why scholars have these attitudes. With this information it will also be possible to see whether there has been a change over time. In addition to analysing the studies on the basis of these focus points one outstanding point will be highlighted, this is an aspect of the study that makes it unique in relation to the other studies.

1.3 Relevance

This study will especially be relevant for librarians at university libraries, but also to the field of academic publishing. As was explained above a lot of research has been done to scholars' attitudes and awareness towards open access publishing. Xia has in his study tried to make a general overview of the development of scholars' awareness of open access in time. However, the more detailed and descriptive overview that will be given in this thesis will be a relevant addition to this general overview as it makes a more clear image of what scholars want and need.

Librarians find themselves lost in articles and opinion pieces that are written about the value and the possible success (or the expected failure) of open access publishing. It is their job to provide scholars with access to the literature that they need for their research, but with their shrinking budgets it gets harder for them to do this job properly in the eyes of researchers. In order to know what they can expect in the future they need a clear overview of scholars' attitudes and awareness over time. It can help them to find out what it is that scholars want so that they can provide this together with the field of academic publishing. They cannot make do with a survey that shows the results for only one year, they need to know what scholars think for the long-term.

This thesis is only a start. It aims to show how analysing a few studies can show how the changes in open access publishing have affected scholars' attitudes and awareness about it over time. It would definitely be relevant to continue researching the results of survey studies in the years to come and to decrease the time intervals between the studies that are analysed.

2. What attitudes do scholars have with respect to open access publishing?

2.1 Shamp (1992): Prospects for electronic publication in communications: A survey of potential users

2.1.1 Summary

Introduction to the study

The first survey on electronic journal publishing was conducted by Scott Shamp at the Department of Telecommunications at the university of Utah in 1992. This was a very small survey with only 81 respondents in the field of communication.

Shamp explains that all the research into electronic journal publishing that had been done until he started his study was mostly focused on the technical features or the impact on scholarly communication. Therefore his study focuses on the willingness of authors to submit their article to an electronic journal. The degree of willingness of authors will ultimately be the determining factor for the success of electronic journal publishing. Shamp's study was meant as an preliminary and exploratory study, as it had only 81 respondents it does not represent all scientific fields at the time. The survey was conducted among researchers who were already familiar with Comserve, a computer information service. The respondents already knew the advantages of digital communication, they were not new to the whole concept of electronic publishing.¹¹

The reason that this study is mentioned here is that this was the first survey about this topic, as electronic journal publishing was still quite new in that time. The term 'electronic journal' is used here because the discussion about the contrast between open access and toll access did not play a role in this study.

Discussion at the time

In his article Shamp shows a bit of the discussion about electronic publishing in that period. He sums up the advantages and disadvantages of electronic publishing as argued by the advocates and opponents.

The advantages of electronic publishing that are named in the article are first of all that producing and distributing an electronic journal is less expensive than making a paper journal. This results in the fact that there are no extra costs for extra pages and that there are thus no

¹¹ S.A. Shamp, 'Prospects for electronic publication in communications: A survey of potential users.' *Communications Quarterly*, 40 (1992), pp. 299.

limitations in length in an electronic journal. This has two advantages in itself, the first being that it is possible to publish more and longer articles. The second advantage is that an electronic journal will mainly use a computer network that has the purpose of transmitting research information and therefore there is space for the readers to comment on the articles as well. This has the advantage that scholarly communication would change from 'a static to a dynamic activity, with more opportunity and less risk for those engaging in it, and with better outcomes.'¹² Another advantage named by the advocates is that it would be easier to send articles back and forth during the reviewing and editorial process and that publication and dissemination of knowledge will thus go a lot faster than in traditional journals. The combination of the increased speed and the possibility for scholars to comment on each other's work alongside the work in the electronic journal could make scholarly communication much more dynamic and less formal.

Where there are advocates there are opponents as well. First of all they believe that the limitation of available pages is functional. The fact that there is a limit to the available space means that only the best articles can be published. Therefore the opponents think that the quality of publications will decrease if there is more space available. They also disagree with the statement that electronic publishing is less expensive than traditional publishing. They agree that the costs for producing and distribution of the physical journals are a large expense, but they thought that the costs will only shift from the publisher to the user when journals become digital. The user has to have the hardware and the software to be able to access the electronic journals. Electronic distribution could therefore also pose a problem for universities with a lower budget.¹³

Results

The answers to the question: "Would you submit to an Electronic Journal?" show that overall 64.1% (50) of respondents indicated that they would submit their article to an electronic journal, 30.1% (24) did not want to submit and 5.1% (4) answered "maybe". The respondents with the lowest occupational status within the university hierarchy, masters students, were most willing to submit. The higher the occupational status of the respondent, the less willing they were to submit to an electronic journal, except for the full professors who are the respondents with the highest status. The respondents were also asked about their publication record, masters students were

¹² T.J. DeLoughry, 'Scholarly Journals in Electronic Form Seen as Means to Speed Pace of Publication and Promote Dialogue.', *The Chronicle of Higher Education*, March 22, A1 1 & A1 6, 1989.

¹³ S.A. Shamp: Prospects for electronic publication (1992), pp. 298.

excluded from these results. The respondents who were willing to submit to an electronic journal usually had a lower publication record than respondents who were unwilling. Respondents who were professors (35) were also asked if they thought that their university would accept publication in an electronic journal as an activity that counted toward promotion or tenure. The majority, namely 77%, of these respondents thought that their university would not count publication in an electronic journal. This was however not a reason for them not to publish in electronic journals, 40% (14) answered that they would submit even though their university did not count it as a publication. A reason for this might be that professors sought for collaborators for their research (ibid. pp. 300-303).

Conclusion

The two main conclusions of this study are that 1) researchers who are already familiar with computer communication are generally supportive of electronic publishing and that 2) scholars will be more willing to publish in an electronic journal if universities count those publication as activities when they consider promotion or tenure. The advancement to a higher occupational level is especially important for the respondents who are in the middle of the scale. Starters are happy to publish in an electronic journal because of the large reach of the journals, and full professors have less risk because the advancement of their career did not depend on publishing anymore (ibid. pp. 303).

2.1.2 Analysis

Outstanding points

In Shamp's study there are some interesting points that have almost disappeared in later studies. What is especially interesting is the comment about the amount of space in electronic journals compared to paper journals. The advocates were convinced that the increased amount of space in journals would be very positive. Finally there would be enough pages to publish every proper article, including those about research with negative results, and the letters in which peers commented on the articles. All of this without the additional cost in paper, print and distribution. Their opponents saw this as a threat to the quality of scholarly publishing. The fact that there was not enough space to publish everything meant that only the best could be published, and according to them more was redundant. This is a discussion that only comes back in one of the other studies, namely the 2004 Rowlands et al. study.

Analysis on the basis of the focus points

Awareness of OA and supposed benefit to the field:

- All the respondents that participated in this survey were familiar with the program that gives access to the journals. So they are aware of the possibility to publish in an electronic journal.
- A benefit to the field is that through publication in an electronic journal researchers can find other researchers in their field with whom they can collaborate.

OA and career advancement:

- Respondents with a low occupational status are most willing. 'A possible interpretation for these findings is that as individuals progress in the field, there is greater recognition of the pragmatic necessity of publishing via traditional, accepted, and endorsed media in order to advance.'¹⁴
- Respondents who are professors are more willing to submit than their colleagues who still want to get promoted or gain tenure.
- The fact that an electronic publication does not count towards promotion and tenure is for some respondents a reason that they choose not to submit. It cannot help them further in their careers.

Scholars' preferences and needs in publishing:

- Respondents who have a higher publication record do not need to publish in an electronic journal because publication in traditional journals is already within their reach.
- Those with a lower publication record are more likely to submit as it might be easier to get published in an electronic journal.

Green versus gold open access:

- This does not yet play a role in this stage.

Quality and peer review in OA:

- The fact that electronic publication does not count towards promotion or tenure could be a sign of alleged low quality of electronic journals.
- The quality of scholarly journals could decrease if there are no constraints in the available space in journals. This could have the effect that articles of insufficient quality are published.

Cost of OA and funding:

¹⁴ S.A. Shamp: Prospects for electronic publication (1992), pp. 300.

- Electronic journals are cheaper to produce and to distribute.
- But not every scholar has access to the hardware and software that is necessary to be able to get access to them; this means there is still a financial barrier to have access.

2.2 Speier et al. (1997): Faculty Perceptions of Electronic Journals as Scholarly Communication: A Question of Prestige and Legitimacy.

2.2.1 Summary

Introduction to the study

This study was conducted at business schools in the United States. The reason that they chose this specific type of academic institution is that business schools have a lot of different disciplines within them and each discipline has its own journals. They searched for business schools that were members of the Association of Research Libraries because these institutions are known to be focused on scholarly research and publication. This means that the scholars are very likely to be familiar with publishing, and therefore they are a good group to ask about awareness and opinions about electronic publishing. The survey was sent by mail, including a postage paid return envelope to 1364 researchers in 1997. A total of 300 of these researchers responded to the survey, this is a return rate of 22%.¹⁵

Discussion at the time

Around the time that this study was done there was a strong increase in the number of electronic journals. The authors of this study write that even though some people call it a great revolution in scholarly publishing, ultimately the academic community will decide whether this is going to be the new way of disseminating knowledge. One of the main advantages that is named in the introduction is that electronic journals are less expensive to produce and distribute and can be accessed by readers at a lower cost than traditional journals when they have access to the right hardware and software. Therefore it would be possible to publish highly specialised journals for small disciplines. In their introduction they also write about the factors that have inhibited first the proliferation of electronic publishing and then its acceptance. Technical factors are: the availability of computers and computing infrastructures, document formatting, a strong preference for having a print version, increased potential for plagiarism, copyright concerns and

¹⁵ C. Speier et al.: 'Faculty Perceptions of Electronic Journals as Scholarly Communication: A Question of Prestige and Legitimacy', *Journal of the American Society for Information Science*, 50, 1999, pp. 538-540.

inadequate graphics quality. More important factors might be the factors that influence the acceptance of electronic publishing as a legitimate way of disseminating academic knowledge. The main concern around that time was whether tenure and promotion committees counted electronic articles when they decided who deserved a promotion. Young faculty are said to be under a lot of pressure to prove their competencies by publishing in a highly respected journal. Speier et al. wanted to determine to what extent scholars were actually concerned about this (ibid pp. 537-538).

In the introduction a previous survey by Butler is mentioned that asked the question how respondents thought that researchers who evaluated their career progress and performance weigh their publications in electronic journals. Forty-three percent thought that electronic journals were evaluated as less important than print journals, 35% did not know and 21% felt that print and electronic media were equally important, one percent of the respondents thought that electronic was better than print (ibid. pp. 538).

Results

The respondents were asked to indicate how aware they were of electronic publishing. Thirty-five percent found themselves somewhat aware, 25% found themselves not at all aware and the other 40% found themselves more aware, from fairly aware to very aware. Around sixteen percent of the respondents indicated that they read electronic publications, 21% indicated to rarely read publications in this form and 56% read them less than rarely. Only around 7% answered that they had submitted to electronic journals or intended to do so (ibid. pp. 540).

When they grouped the answers by demographic and discipline they found some interesting results. Faculty who said that they were more aware and that they more frequently read electronic publications were younger than the ones who read less and were less aware. Another interesting result was that the researchers who generally published more articles were also more aware of electronic journals. Also, the respondents who said that they were part of a promotion and tenure committee were more aware of electronic publishing, and they were more likely to both intend to and already submit articles to electronic journals. However, peer review was less important to the respondents who said that they did read or submit to electronic journals than it was for their counterparts who neither read these journals nor submitted for publication (ibid 540-541). This might show that this group of respondents think that the quality of scientific work could or should be measured in a different way than through peer review. An example for

this could be post-publication commenting alongside the article, this way scholars can decide for themselves if they think an article is of high enough quality.

Another interesting result was that the respondents did not think that the quality of an electronic journal was as high as that of a paper journal. Yet this only applies to the electronic journals that are only available electronically, not to the electronic journals that also come in a paper version (ibid. pp. 541).

Conclusion

The main conclusion of this study is that the view on electronic journals that either promotion and tenure committees or other respondents had was that electronic journals are not necessarily low in quality but they are not equal in quality to paper journals (ibid. pp. 542). Promotion and tenure committees do not count articles that are published in an electronic journal.

2.2.2 Analysis

Outstanding points

The main point that was made in this study is the comparison of the electronic journal and the paper journal. The results of this study show that scholars did not evaluate the quality of an electronic journal as high as that of a paper journal, except if the electronic journal was also available on paper. This means that the journal has a history as a paper journal, and because it has a history it has a better reputation than a new journal. This shows that scholars do not like to 'experiment' with a new form of publication. Also because they are afraid that this brings a future promotion in jeopardy.

Analysis on the basis of the focus points

Awareness of OA and supposed benefit to the field:

- The majority of respondents said to be at least somewhat aware of electronic publishing. However, only 16% of them regularly read electronic publications, the majority did not. Just like the vast majority did not submit to electronic journals.
- The minority that does incorporate electronic publishing in their system of scholarly communications are part of a younger generation of scholars.
- However, scholars who publish more articles are more aware of the option of electronic publishing. Such as the scholars who are in a tenure and promotion committee. They are

also more willing to submit even though they do not count electronic publications as members of the tenure and promotion committee.

OA and career advancement:

- The acceptance of a publication by promotion and tenure committees is very important in authors' decision where to publish. These committees are not positive about electronic publications, thus authors decide not to publish in electronic journals.
- Especially young authors are advised not to experiment by publishing in an electronic journal.

Scholars' preferences and needs in publishing:

- Some respondents said that they would only publish in journals that were also available in print.

Green versus gold open access:

- This does not yet play a role.

Quality and peer review in OA:

- Peer review is less important to the enthusiasts of electronic publishing. This could suggest that quality is less important for these scholars. Or that they think there are different, maybe more transparent, ways to measure the quality of scholarly work.
- The quality of electronic journals that are only available electronically is not valued as highly as those that also exist on paper. The quality of electronic journals is thus perceived to be lower than that of traditional journals.

Cost of OA and funding:

- Electronic journals are said to be cheaper to produce. This can be an advantage as small disciplines could also have their own journal.

2.3 Swan & Brown (1999): What Authors Want

2.3.1 Summary

Introduction to the study

This study was done on behalf of the Association of Learned and Professional Society Publishers (ALPSP), many of the publisher members of this association were involved, as well as other publishers in the UK and elsewhere. In total 11500 questionnaires were distributed to authors who had contributed to selected journals from the list of the publishers in 1999. The paper that is summarised here is based on 2500 (83%) of the total of 3000 responses. The aim of this survey was

to find out what motivates authors to publish their work, which factors they take under consideration when they decide where to submit their article, the concerns they have regarding the publishing process and their hopes and expectations for the future of scholarly publishing.¹⁶

Results

The most important motivation to publish their work is to communicate with the scholarly community. The authors' second most important reason is to advance in their career as a researcher. Other reasons that are of importance are the personal prestige of the author and gaining funding for future work. Only a very small minority said that a direct financial reward was the reason they published their work. These reasons do vary between disciplines, for humanities researchers it is less important to gain funding through publishing their work than for science researchers.

When they pick a journal to submit their article to the most important factors are: the audience of the journal, peer review and impact factor. The last is so important that the decision for submitting depends on it, together with: the reputation of the journal, the international reach and the coverage of abstracting and indexing services. Again, these results vary per discipline. Other factors that were cited by a lot of respondents were the journal's circulation, subject coverage and publication speed. Publication speed is much more important to scientists than it is to researchers working in the social sciences and humanities. The same goes for the availability of an electronic version of the journal and the reproduction quality.

Concerns that authors have are mostly about copyright, publication delays and peer review. Especially researchers who work in the humanities and social sciences are concerned about handing over the copyright of their work to the publisher. They would much rather retain it. The concern about the delay of publication is shared across the disciplines. Researchers in the sciences are afraid for a delay because someone else might publish something very similar first, which is a problem because it is important to be the first. Peer review is sometimes seen as a problem because this can also delay publication, and sometimes the respondents receive superficial or hostile reviews.

For the future many respondents hope that electronic publishing will develop in a way that the speed of peer review and thus of publishing will increase. They also see a change in the

¹⁶ A. Swan & S. Brown, ' "What Authors Want:" The ALPSP research study on the motivations and concerns of contributors to learned journals.' *Learned Publishing*, 12, 1999, pp. 170.

reason for publishing. They think that building a reputation as an author will become a more important reason for publishing than dissemination of knowledge (ibid pp. 170-172).

2.3.2 Analysis

Outstanding points

This study aimed to find out the factors that authors considered when choosing where they would want to publish. Therefore this article lacks results about some of the focus points below.

However, this study does give a good insight in scholars' attitudes with regard to publishing. This study shows that authors decide where they want to publish based on factors that show the best 'quality'. Factors such as: impact factor, reputation of the journal and the international coverage by abstracting and indexing services are all factors that show off a journal's quality and thus the quality of the scholar's work. These factors are also used when tenure and promotion committees decide who deserves a promotion. Career advancement plays a big role in scholars' attitudes towards publishing. Some respondents said that they thought that building a reputation as an author would become a more important reason for publishing than the dissemination of knowledge.

In hindsight it is possible to say that reputation has indeed become more important in publishing. It could even be said that publishing in the best journal possible is for some scholars the only way they want their work to be published. This means that to a certain point reputation has become more important than the dissemination of knowledge. Especially scholars who are starting their career are nowadays very cautious about where they submit their work, they still prefer the traditional subscription based publishers with the respectable reputation over new open access publishers.

Analysis on the basis of the focus points

Awareness of OA and supposed benefit to the field:

- This survey did not have the goal to research awareness of open access.

OA and career advancement:

- The second important reason for publishing is career advancement. This is why the following factors are important: the impact factor of the journal, the reputation of the journal, the international reach and the coverage by abstracting and indexing services.

Scholars' preferences and needs in publishing:

- The most important reason for publishing is said to be the dissemination of knowledge.
- The decision where to publish depends on those factors that help advance the researchers' career (named above). Only the few journals that are known for the best quality score well on all these factors, however these are not the only journals that disseminate knowledge.
- Factors of further importance are journal's circulation, subject coverage and publication speed

Green versus gold open access:

- This was not mentioned in the study.

Quality and peer review in OA:

- The main concerns scholars have are about the quality and peer review.

Cost of OA and funding:

- Cost and funding or money is not mentioned in the article.

2.4 Rowlands, Nicholas and Huntington (2004): Scholarly communication in the digital environment: what do authors want?

2.4.1 Summary

Introduction to the study

This study researches different aspects of scholarly communication. The main focus of the study is on the factors authors consider when they choose where to publish an article, and what their attitudes are towards open access possibilities such as self-publishing, institutional repositories and commercial (gold) open access publishing.

The survey was extensively tested and piloted three times before it was sent to 107500 authors in January 2004. The approached authors were selected if they had published at least one article in a peer-reviewed journal during the previous eighteen months. There were 6016 responds, 3787 (62.9%) of which were usable, fully completed questionnaires from authors from 97 different countries, that is a response rate of 4%.¹⁷

Results

The results of this survey show which aspects authors consider when they choose where to

¹⁷ I. Rowlands, D. Nicholas, P. Huntington, 'Scholarly communication in the digital environment: what do authors want?', *Learned Publishing*, 17 (2004), pp. 262.

publish. For authors who have some experience in publishing in open access the speed of refereeing, the price of the journal and the ease of acceptance plays a big role. Targeting 'the right audience' is less important for this group of authors. Younger authors are less than their older colleagues occupied by impact factors, coverage by abstracting and indexing services and the availability of a paper copy. 'These findings suggest that younger and 'open access' authors have different requirements in terms of what they are looking for from the publishing system (ibid. pp. 264).'

A question that was asked in the survey was for whom authors wanted their work to be available. Here the authors who had some experience with open access publishing were compared to the rest. They were much more concerned that their work could be read by teachers and students and the general public than the other group. Teachers on secondary schools for example could be able to offer their students much more if they had access to scientific literature, but because subscription prices are very high this is usually not within their reach. Authors that did not have experience with open access publishing were more concerned with reaching a very specialised audience of researchers who studied the same topics (ibid. pp. 264).

Almost half of the authors responded that they are not interested in copyright, and only 13% of the authors said that they read the copyright agreement. However, when asked to write about their opinion a lot of authors did respond that they felt that publishers' rights to sell their work should be restricted to a time limit of one year (ibid. pp. 265).

Authors of scholarly articles are usually also readers of scholarly articles. In this survey the authors were also questioned about how satisfied they were with the access to scholarly articles that they needed. More than half of the respondents, namely 61%, answered that access was currently 'good' or 'excellent', only 10% said that access was 'poor' or 'very poor'. The results vary a lot depending on geographical locations of the respondents, in Central America and Eastern Europe respondents were least satisfied with the access to journals (ibid. pp. 266).

Making work available on an own website or a departmental website is defined as self-publishing in this study, since there is no third party involved in the process. Thirty-two percent of the respondents answered that they had experience with this form of open access publishing, mostly young men. Authors who did self-publish their work were mostly working in the fields of computer science, economics and business, mathematics and physics and astronomy. Fifty-two percent said that they would consider using this way of making their work publicly available in the future, and for only 12% this would never be an option. This was also dependent on the

geographical location of the correspondents. A disadvantage that the respondents named about this way of making their work public was that it is hard to reach a readership (ibid. pp. 267-268).

An institutional repository is a collection of scholarly materials in digital form that are managed by an institution such as a university. The attitudes towards placing work in institutional repositories differ only slightly from those on self-publishing. Only 21% of respondents reported that they placed their work in an institutional repository, 55% thought about doing it in the future and 15% did not intend to do this. The results also show that more men than women have placed their work in their institution's repository. Those publishing in computer science, mathematics and engineering were most likely to have put their work in a repository (ibid. pp. 268).

Authors were also asked their opinion about open access publishing, more specifically the 'gold' model where the author pays before publishing and the reader has access to the material free of charge. When authors were asked how much they knew about open access publishing 34% admitted they knew 'nothing at all' and 48% said that they knew 'little'. This was a very surprising result for the researchers who thought that the framing of the survey in terms of new developments in journal publishing would attract only the scholars who knew something about the topic. Only 11% of respondents had previous experience with open access publishing. However, authors did find the idea of open access very appealing. They associated gold open access with high-quality and well-indexed journals that were free at the point of use. At the same time they did not think that the quality of articles would improve; authors answered that they thought that more articles would be accepted, and that the articles would be less concise because there are no restrictions in the amount of space. Furthermore they did not have any reservations about the materials being preserved in a digital environment in which it is always possible to retrieve them.

Generally authors liked the idea of open access to information at the point of use. Ideally they wanted open access to be free at both ends of the chain, for readers and authors. When they were asked how much they would be willing to pay to publish in the best open access journal in their field 48% answered that they would not accept such a business model. If the authors answered that they were willing to pay they mostly chose the option 'less than \$500'. In the comment section a lot of the respondents wrote that they had chosen that option only because it was the lowest possible option, in reality they would not be willing to pay more than \$300. This

shows that the amount that authors think of as fair does not match the amount that the publishers think of as fair (ibid. pp. 272).

Conclusion

Most authors want to reach a very specific audience of researchers that study the exact same field as they do. For their articles they want the imprimatur of quality and integrity that only a well peer-reviewed, high-impact title can offer. The results also show that the level of awareness about current issues in publishing, such as open access publishing, is very low among the research community (ibid. pp. 273).

2.4.2 Analysis

Outstanding points

This is the first study that is mainly focused on open access. In the survey questions were asked about three ways of making work available in open access: self-publishing on the internet, green open access and gold open access. The respondents were not equally aware of all the options, they were more familiar with self-publishing on the internet and making their work available through an institutional repository. They did not know as much about open access publishing, also referred to as the gold way towards open access. This might be the reason that there is an inconsistency in the results. Namely, that respondents associated gold open access with high quality and peer review and at the same time thought that in this model more articles would be accepted which would cause the quality to decrease. This association could be caused by the idea that a restriction in the amount of space improves the quality of an article, or because authors think that only a few articles are good enough to be published and that the rest is redundant. The fact that the results show that scholars are more likely to intend to make their work available on the internet or in a repository could also be a result of this unawareness when it comes to gold open access.

Analysis on the basis of the focus points

Awareness of OA and supposed benefit to the field:

- The majority (82%) of respondents knew little or nothing about open access, especially not about gold open access.

OA and career advancement:

- Some respondents wrote in the comment section of the survey that there is an over-emphasis on impact factors among scholars, and that there is too much focus on only the 'top journals'.

Scholars' preferences and needs in publishing:

- Younger authors, and authors with experience in open access publishing have different requirements than other authors. Targeting a specific audience is not important to them. Speed of refereeing, cost of publishing and a bigger chance on acceptance is more important.
- Younger authors care less about the availability of a paper copy, the coverage of indexing and abstracting services and impact factor. These are factors that are more important in traditional journal publishing and play a smaller role in open access publishing.
- Authors that have experience with open access publishing find it very important that their work can be used by people who would traditionally not be able to access scholarly articles.

Green versus gold open access:

- The respondents had slightly less experience with publishing their work in an institutional repository than they had with self-publishing on their own website. However, more respondents thought about placing their work in a repository in the future.
- Green open access and self-publishing on the internet is much more popular than gold open access.

Quality and peer review in OA:

- The respondents did associate gold open access with high quality and a good peer review process, but at the same time they thought that quality would decrease because more work would be accepted.

Cost of OA and funding:

- The price was the biggest issue for the authors, they did not want to pay more than \$300 for publishing.

2.5 Brown & Swan (2007): Researchers' use of academic libraries and their services.

2.5.1 Summary

Introduction to the study

This was a very deep study into researchers' use of academic libraries in the UK. The results were found through surveys, and by consulting expert panels, doing focus group discussions and interviews. The results are therefore quantitative and qualitative. Participants were 300 librarians and 2250 researchers from the main four disciplinary groups: arts and humanities, social sciences, physical sciences and the life sciences.¹⁸ The survey was conducted in 2007.

The focus of this study was to gain insight in how researchers use the academic library and its services but here only the part about open access will be summarised.

Results

In the perspective of this study it is good to keep in mind that researchers are both the producers and the consumers of scholarly journals, and that librarians have to provide them with information about the open access possibilities for them in both capacities (ibid. pp. 9).

Researchers were asked how familiar they were with open access. There are big differences between the disciplines: 13% of arts and humanities and 15% of social sciences researchers said to be 'very familiar', this was slightly more in life sciences and physical sciences where this was respectively 28% and 20%. However, the difference in percentages is even bigger when 'very familiar' and 'familiar' are put together, it ranges from 45% in the arts and humanities and social sciences to 71% in the life sciences. That means that in the arts and humanities and social sciences more than half of researchers are not familiar with open access. Of library directors 64% report that they are very familiar, against 48% of other library staff. (ibid. pp. 58-59).

Librarians did report in the survey that they have promoted open access in their academic library in several different ways, such as: promotional material inside the library, tools on the website, and discussions with library representatives. Still almost 50% of researchers answered that their library did not do anything to promote open access. Moreover, this applies for both sides of open access, so the consumption of open access content as well as supplying it. Only 4% of researchers reported that their librarian advised them to put their work in an institutional repository, and just 1% said that their librarian advised them to publish in an open access journal (ibid. pp. 60).

¹⁸ S. Brown & A. Swan, 'Researchers' use of academic libraries and their services.' *United Kingdom: Research Information Network and the Consortium of Research Libraries*, April 2007, pp. 9
<http://eprints.soton.ac.uk/263868/1/libraries-report-2007.pdf> (2 July 2014)

Also when it comes to institutional repositories the awareness among researchers is low. Where 52% of the librarians answered that their library has an institutional repository only 15% of researchers knew this. Most of the researchers, namely 72%, did not know if their institution had a repository. However, researchers do not only use the repository of their own university to search for information: 6% of researchers reported that they use repositories 'frequently' to find information, 11% said to use it 'sometimes' and another 11% reported 'occasionally' (ibid. pp. 64-65).

As for the funding of the cost of open access, researchers do not expect the library to do this, for 19% of researchers using library funds to pay for open access is not an option, only 25% of researchers would like to see this happen (ibid. pp. 16-17).

Conclusion

The overall conclusion in the open access section is that awareness is low among researchers in general and especially in arts and humanities and social sciences. Librarians generally know much more about open access possibilities, but seem to have been unable to transfer this knowledge to the researchers in their institutions.

2.5.2. Analysis

Outstanding points

This study aimed to find out how librarians can best help researchers in their university library. With respect to open access, the main focus of this study was to find out how aware researchers are of this new way of making their work available and what the role of the library is in raising awareness. The awareness of open access is not equally high across the four main disciplines. Many researchers have heard about open access, but when they were asked for example if their institution had a repository where they could make their work available they did not know this.

Analysis on the basis of the focus points

Awareness of OA and supposed benefit to the field:

- There is a big difference in awareness between different disciplines. The majority of humanities and social sciences researchers are not aware of open access, this is the other way around in the life sciences.

- The fact that scholars are aware of the existence of open access does not mean they are aware of the ways to make their own work available either via the green or the gold way of open access.

OA and career advancement:

- This was not mentioned in this study.

Scholars' preferences and needs in publishing:

- This was not mentioned in this study.

Green versus gold open access:

- Few researchers know that their own institution has an institutional repository, even though librarians of the same institutions have indicated that they do. Therefore not a lot of them publish in these repositories.
- Just one percent of researchers said that their librarian advised them to publish in an open access journal.

Quality and peer review in OA:

- This was not mentioned in this study.

Cost of OA and funding:

- The majority of the respondents does not think that publication fees should be paid out of library budget.

2.6 Dallmeier-Tiessen et al. (2010): 'Highlights of the Study of Open Access Publishing (SOAP)'

2.6.1 Summary

Introduction to the study

The SOAP project is a large-scale worldwide survey to study scientists' attitudes about and experience with open access publishing, sponsored by the European Commission. This survey was conducted with the help of some of the main scientific publishers: SAGE, Springer and BioMed Central. Their mailing lists with authors and editors were used to collect respondents. Around 1.5 million individuals were exposed to the survey in one way or another. The survey was online for almost seven months: from April 28th 2010 until November 17th 2010. All in all 53890 individuals responded to the survey, 38358 of them were researchers who had published at least one peer-

reviewed article in the last five years. Respondents came from 162 countries, and 19 different research fields that represent the four main disciplines.¹⁹

Results

One of the most important questions in the survey was whether the respondents thought that open access publishing would be beneficial to their research field. It was quite clear that they did, 89% answered that they thought it would be beneficial. This percentage was even higher than 90% in disciplines within the social sciences and humanities. It was around 80% for Chemistry, Astronomy, Physics, Engineering and similar disciplines. These results are quite surprising because usually scientists are much more enthusiastic than their colleagues in the humanities and social sciences. Respondents who answered positively were also asked to explain why they thought it would be beneficial to their field. Their answers were tagged and analysed, 36% said that the scientific community would benefit, 20% said that it would be beneficial for financial reasons. Eighteen percent answered that it would be beneficial for the public good, and another 10% saw benefit for the author (ibid. pp. 5).

Respondents were also presented statements and asked to indicate to what degree they agreed or disagreed with them. A majority of almost 90% indicated to strongly agree or agree with the statement: 'Publicly-funded research should be made available to be read and used without access barrier.' More than 70% agreed or strongly agreed that: 'Researchers should retain the rights to their published work and allow it to be used by others.' Also, more than 70% indicated to strongly disagree or disagree with the statement: 'It is not beneficial for the general public to have access to published scientific and medical articles.' A little more than 60% strongly disagreed or disagreed that: 'Open access publishing undermines the system of peer review.' Furthermore, around 50% indicated to strongly disagree or disagree with the statement: 'Open access publishing leads to an increase in the publication of poor quality research' (ibid. pp. 6).

Twenty-nine percent of the respondents answered that they have not published open access articles, 42% of those admitted that they had a specific reason not to do so. In an open ended textbox they wrote why, the answers were tagged and analysed. The main reason for not publishing an open access article was a problem with funding, 39% of the answers represented this. Another important reason was the quality of the journals, which 30% thought was too low.

¹⁹ S. Dallmeier-Tiessen, et al. 'Highlights from the SOAP project survey. What Scientists Think about Open Access Publishing,' 2011, pp. 2. <http://arxiv.org/ftp/arxiv/papers/1101/1101.5260.pdf> (10 July 2014)

Other reasons were that articles were not accepted and open access was thus not accessible, a lack of awareness of open access or OA journals in their field, the chosen habit of publishing the traditional way and making work available via the green way to open access. Two percent answered to be willing to publish their next article open access (ibid. pp. 7).

Within this survey there was a small survey about the experience of open access publishing, 22977 (52%) respondents answered these questions. Overall, 50% of these respondents published their open access article without paying a fee, this figure is even higher for disciplines in the humanities and social sciences. Fourteen percent of respondents did not know if they paid and how much, 12.6% paid between €501 and €1000, 9.9% paid between €1001 and €3000, 7.2% paid up to €250 and 6% paid between €251 and €500. Not even 1% paid more than €3000. Almost 60% of these fees are paid out of the research funding. Twenty-eight percent of researchers said that there is money included in this funding for paying these fees, 31% answered that they just use that money even though it is not specifically intended for it. Twenty-four percent of respondents answered that their institution pays the fees. It really depends on the discipline whether it is difficult or easy to get funding for paying the publication fees (ibid. pp. 8-10).

Conclusion

The main conclusion of the SOAP project is that the vast majority (up to 90%) of the 38358 respondents thinks that open access publishing would be beneficial to their field. However, this does not show in their actions as not all of them publish their work in open access journals. A reason that is given by the respondents is that there is a lack of funding for open access publishing. Another reason is that the quality of open access journals is perceived to be low by some of the respondents. (ibid. pp. 11)

2.6.2 Analysis

Outstanding points

Within this survey there was a survey about authors' experience with open access publishing, the gold road to open access. This gives a unique insight in the amount of money that scholars were willing to pay to publish in an open access journal. The fact that 50% of the respondents who had experience with open access publishing did not have to pay shows that it is actually possible to do this even with little funding. The results also show that the other 50% of the respondents did pay to be published, even up to 3000 euro's. This shows a change in the attitude that scholars have in

regard to open access, as respondents in the 2004 survey were not willing to pay more than 300 dollars.

Analysis on the basis of the focus points

Awareness of OA and supposed benefit to the field:

- A vast majority of the respondents is very positive about open access publishing. Especially researchers in the humanities and social sciences think it will be beneficial to their field. This is a surprising result, as common wisdom suggests open access is less accepted in these fields. A reason for this could be that only those scholars who are interested in open access have responded to the survey.
- Lack of awareness and familiarity was named as a reason that some of the respondents did not publish in open access.

OA and career advancement:

- Ten percent of the respondents thought that open access would not only be beneficial to their field but also to the author as an individual.

Scholars' preferences and needs in publishing:

- Many of the researchers are very positive when it comes to lowering access barriers, also for the general public and about retaining the rights of their work so that they can decide who can use and reuse it.

Green versus gold open access:

- Some of the respondents said that they did not publish in an open access journal because they already made their work available via the green road to open access.

Quality and peer review in OA:

- Some of the respondents did not want to publish in open access because of the perceived poor quality.

Cost of OA and funding:

- Respondents think that open access will be beneficial to their field because of financial reasons.
- But lack of funding was named as a reason for not publishing in open access.
- Half of the respondents who had published in open access did so for free. Authors who did pay paid the fee out of their research money.

2.7 Kocken and Wical (2011): 'I've never heard of it before'

2.7.1 Summary

Introduction to the study

This study combines a survey at the small liberal arts university of Wisconsin-Eau Claire with a literature study about researchers' awareness of open access. As it is just a small university a total of 397 faculty members were sent an email with the question to participate with the survey. Of those who were contacted 105 faculty members responded, this is a return rate of 26.4%. The survey consisted of 11 questions, and was meant to provide a snapshot of how aware faculty members were of open access just before the start of the Open Access Week in 2011. One of the most important assignments in the survey was for the respondents to write a definition of what open access is.²⁰

Results

To the question if there were open access journals in their field of research 51 (49%) respondents answered 'yes', 32 (63%) of those 51 said that their research field benefits or would benefit from open access journals. Ten (20%) of them said to have published in an open access journal. Six (6%) respondents said that there were no open access journals in their field, and three of those respondents said that their field could benefit from it if there were. There were 48 (46%) respondents who answered that they did not know if there were open access journals in their field. Of this group 25 (52%) respondents did not know whether their research field would benefit from open access journals, 21(44%) respondents thought that it would, 2 (4%) respondents thought it would not benefit (*ibid.* pp. 144-148).

As noted above the respondents had to give a definition of open access, 91 of the respondents did this. Twenty (22%) of these 91 were not able to provide even a basic definition, the title of the study: 'I've never heard of it before' was a direct quote of one of these attempts or reactions on the demand for a definition. A comparison with research of for example Xia shows that the faculty members of Wisconsin-Eau Claire might not know as much about open access as researchers from other universities did. The other respondents were able to provide at least a basic definition (*ibid.* pp. 150).

The respondents were also asked to indicate which factors were important to them when

²⁰ G. J. Kocken & S. H. Wical "I've Never Heard of It Before": Awareness of Open Access at a Small Liberal Arts University', *Behavioral & Social Sciences Librarian*, 32:3, 2013, pp. 144.

they selected a journal to publish their research in. 'Relevance of the journal to your discipline' was indicated to be 'important' or 'very important' by 98 (94%) of the respondents. Secondly 'Academic promotion or tenure' was indicated to be 'important' or 'very important' by 94 (91%) of the respondents. 'Absence of publication fees' was 'important' or 'very important' to 72 (71%) of the respondents, as was 'Journal impact factor'. 'Journal's copyright policy' was least indicated as 'important' or 'very important' (ibid. pp. 149).

Conclusion

The conclusion of this study is that the small university of Wisconsin-Eau Claire is very much behind in awareness about open access compared to bigger universities. The researchers who conducted the survey and analysed its results had not expected the awareness to be this low. When they put their results next to the results of Xia's study they concluded that the results of their own study were very different, and that a lot more research needed to be done into the awareness on smaller universities. They suspect that the university of Wisconsin-Eau Claire might not be unique in its unawareness of open access. The researchers think that this might be common in small universities. However, the benefits of open access can be huge especially for small universities like that, as they will have access to much more literature. For open access to be beneficial though, the faculty members need to be aware of the existence of open access journals and repositories (ibid. pp. 150-151).

2.7.2 Analysis

Outstanding points

This survey is especially interesting because it was conducted at a small liberal arts university in the United States, it therefore shows an entirely different perspective than the other surveys. In the other surveys that were conducted around the same time the results show that the awareness of scholars was very high; that is not the case at this university. The fact that awareness is this low at a small university in the United States might be an exception, but the chances are that there are many more of these smaller universities in the world than there are big ones. However, the reason might not lie in the size of the university but in the field that it studies and the nature of this liberal arts university. This survey is therefore an example of the exception to the rule, and the fact that more research needs to be done to find out whether this university is actually an exception.

Analysis on the basis of the focus points

Awareness of OA and supposed benefit to the field:

- At this small liberal arts university awareness of open access and the possibilities that it brings was very low, although many of the respondents did suppose it would be beneficial to their field. This last fact might be caused by the low level of awareness. However, especially compared to similar studies at bigger universities this small university lagged behind. More research would be necessary to see if this low awareness is an average for small universities.

OA and career advancement:

- Promotion and tenure was named to be an important reason for publishing, and whether a publication would count was a determining factor in the decision how to publish.

Scholars' preferences and needs in publishing:

- Factors that were indicated as important by the respondents were all factors that are typical features of traditional subscription based publishing.

Green versus gold open access:

- Awareness of green open access was equally low as awareness of gold open access. However, green open access might be better suited for the scholars of this university as they prefer to publish the traditional way.

Quality and peer review in OA:

- Was not mentioned in this study.

Cost of OA and funding:

- Especially for such a small university open access could have financial benefits, as the largest part of the library's budget is used to pay subscription fees. This point was however not raised by the respondents to the survey but by the researchers themselves. But this only applies on the consumer end of open access, because publishing will probably also cost money in the field of liberal arts.

2.8 Taylor and Francis Open Access Survey (2014)

2.8.1 Summary

Introduction of the study

This survey was sent to authors who had their articles published in a Taylor and Francis journal in 2012 and who had not previously opted out of receiving surveys by the Taylor and Francis

department of Research and Business Intelligence. The Taylor and Francis Open Access Survey is an annual survey among the authors who write for journals that are published by this publisher. For comparison with the Taylor and Francis Open Access Survey of 2013 a couple of the questions in the survey were the same as the previous year. There was a big difference in the number of respondents though, 14769 respondents in 2013 and 7936 in 2014. Therefore a statistical significance test has been done to make sure that the comparison is valid.²¹

As Taylor and Francis mainly publishes journals for the social sciences, the humanities and technology, the survey does not represent the entire research community. The sample also underrepresents authors who have already published in paid open access.²²

Results

Respondents were asked to indicate how much they agreed or disagreed with a couple of statements about the possible advantages of open access. These results can be compared with those of the survey that was done in 2013. Eighty-one percent of respondents said that they strongly agreed or agreed with the following statement: 'Open access offers wider circulation than publication in a subscription journal'. In 2013 this was 71%. Slightly fewer (55% compared to 61%) respondents indicated to agree or strongly agree with the statement: 'Open access journals have faster publication times than subscription journals' (ibid. pp. 6). A reason for this result could be that the respondents to the 2014 survey have already tried to publish in an open access journal, or have heard experiences from colleagues who did. The time it takes to publish an article with an open access publishers differs very much per publisher and per journal. This could depend for example on the use of peer review, if rigorous peer review is used by a journal it takes longer for an article to be published.

As well as statements about the possible advantages of open access there were statements about the possible disadvantages. Not all of these are fit for comparison; however the results can also be seen on their own. The respondents are very divided about the statement: 'Open access journals are lower quality than subscription journals'. Thirty-five percent indicated to strongly agree or agree with this statement, 34% does not agree nor disagree with this statement and 32% strongly disagrees or disagrees. This is almost the same for the statement: 'Open access journals have lower production standards than subscription journals'. Here 31% strongly agrees or agrees,

²¹ W. Frass et al., 'Taylor & Francis Open Access Survey', Routledge Taylor & Francis Group, 2013.

²² W. Frass et al., 'Taylor & Francis Open Access Survey', Routledge Taylor & Francis Group, 2014, pp. 3-5.

35% does not agree nor disagree and 34% disagrees or strongly disagrees. The statement: 'There are no fundamental benefits to open access publication' elicited a stronger opinion. Seventy percent of the respondents disagreed or strongly disagreed with this statement and only 11% strongly agrees or agrees with it, 19% is neutral (ibid. pp. 7).

This survey also poses some statements about institutional repositories. Sixty-seven percent of respondents say that they often use a general search engine like Google or Google Scholar to find articles in repositories. Fifty-one percent say that they search within repositories as part of their research. A majority of 66% indicates that the articles they find in repositories are often useful in their research and 38% says that those articles are usually of high quality (ibid. pp. 7-8).

The respondents were also asked how many scholarly articles they published in the last 12 months, and whether those articles were published in Gold Open Access or in a subscription based journal. In total 28219 articles were published in the last 12 months, 22356 (79%) were published in a subscription based journal by 7108 respondents, 3.1 articles per author. The other 5863 articles were published in Gold Open Access, by 6689 authors, 0.9 articles per author (ibid. pp. 11).

Another question in the survey asked what kind of peer-review was thought to be the most suitable for the respondents' research. Seventy-one percent said that 'A rigorous assessment of the merit and novelty of my article with constructive comments for its improvement, even if this takes a long time' would be the kind of peer-review that they would prefer 'always' or very often. Forty-one percent said this about 'Accelerated peer-review with fewer rounds of revision.' Respondents were most divided about 'Accelerated peer-review that reviews the technical soundness of my research without any judgement on its novelty or interest (in the style of PLoS One).' Thirty-three percent of the authors said that they would 'always' or very often find this a suitable way of peer-review, 30% thought it was suitable sometimes, and 27% would hardly ever or 'never' choose this kind of peer-review. The manner of peer-review that respondents were least positive about was 'Post-publication peer review after a basic formal check by invited reviewers that my work is scientifically sound (in the style of F1000 Research.)' About this way of peer-review 50% of respondents said that they would hardly ever or never see this as a suitable way of peer-review (ibid. pp. 11).

Peer-review is very important to researchers, this also came back in the question about the services they expected from a publisher when they had to pay for open access. Eighty-one

percent of the researchers who responded to this question indicated that rigorous peer review was very important or important to them. Other services that were considered to be important or very important were rapid publication of the paper (76%), rapid peer review (71%), and promotion of the paper post-publication (69%). The provision of alt-metrics was not so important to the majority of the respondents, 63% did not indicate this as important (ibid. pp. 16).

Thirty-one percent of the respondents said 'I will choose to publish more articles as Gold Open Access' in the future, 47% is still unsure about this. Fourteen percent of them think that they will be mandated to do so, and 54% does not know if this is going to happen. Respondents seem to be more enthusiastic about green open access, 46% says that they will choose the green way, however 41% is unsure about this. Twenty-one percent thinks that they will be mandated to publish more articles as green open access, but 52% is unsure about this. Researchers do think that academic papers in journals will continue to be the main outputs of research. Fifty-one percent thinks that these journals will be subscription based though and 49% thinks that they will either in green or in gold be available through open access (ibid. pp. 18-20).

2.8.2 Analysis

Outstanding points

In this study a lot of attention was paid to peer review. Respondents to this survey were asked which kind of peer review they would find suitable for determining the quality of their work. All the different kinds of peer review that are now practised by various (open access) publishers were named, and this gave a very clear overview of scholars' attitudes regarding peer review. As respondents also indicated that good peer review is one of the most important factors when they decide where to publish this overview of different kinds of peer review that different publishers practise also shows something of their intention to choose these publishers or not.

Analysis on the basis of the focus points

Awareness of OA and supposed benefit to the field:

- This survey assumes that scholars are aware of what open access is.
- This is indeed true, but respondents did say for example that they did not put their work in a repository because they did not know if this was allowed by the publisher.

OA and career advancement:

- This was not mentioned in this study.

Scholars' preferences and needs in publishing:

- Scholars prefer rigorous peer review in contrast to peer review that only checks the soundness of the research and not the originality.
- Scholars want to publish fast.
- Scholars prefer the Creative Commons License CC BY-NC-ND (attribution, non-commercial, no derivatives.)

Green versus gold open access:

- Publishing in an institutional repository is by many seen as a better option than publishing in gold open access.

Quality and peer review in OA:

- The respondents are concerned about the quality of open access journals. Not all of the respondents are sure that it is just as good as that of subscription based journals.
- Respondents think that rapid peer review is important, but not as important as rigorous peer review before publication. Respondents are not very convinced about the kind of peer review where only the soundness of the research is checked and not whether it is relevant and unique.

Cost of OA and funding:

- The respondents are asked to indicate how they think that research output will be published in the future. Fifty-one percent of the respondents think that articles will still be published in subscription based journals where the author does not have to pay an article processing charge.

3. Overview of developments

3.1 Developments in open access that influenced scholars' attitudes.

All of the studies that have been summarised and analysed in the previous chapter have their own outstanding points. Sometimes this is brought forward in the introduction or the discussion part of the study, other times it was the survey itself that had its own specific focus. On the basis of some of these points it is possible to show some very important developments in open access publishing. Some of the arguments that were vital in the discussion at the beginning of the open access movement have disappeared entirely. Others have only become more important over the years.

One very important argument in the first study was that if there were no constraints in the available number of pages in a journal the quality of the journal would decrease. This is an argument that shows how at the time the shift from print to digital was not just a shift from paper to screen. There was much more to it. For in print a journal only had a limited number of pages, due to the cost of paper and ink as well as the costs for distribution. As a result of this only the best articles could be published, and even then those articles could not be longer than an x number of pages, this could even mean that only the best arguments of the article could be published. This did of course not mean that the articles that were not published were not of high quality. Since this space limit did not exist in digital publishing some scholars thought that this eventually meant that everything could be published. Even though this cause-effect relationship was not inevitable this did at the time affect scholars' attitudes towards open access publishing. This argument returns in the study by Rowlands et al. in 2004 where some of the respondents said that they were afraid that more articles would be accepted in the gold open access model and that articles would be less concise. After 2004 this argument disappeared, a reason for this could be that scholars were used to electronic journals by that time. Scholars might have realised that either in open access journals or subscription based journals peer review was necessary to select articles that were worth it to be published, and that length is also a factor that is weighed in the peer review process.

This is part of a related discussion about the newness of electronic publishing. Especially in the first two studies it is clear that publishing in a journal that is only available digitally is seen as experimental. Scholars who want to advance in their careers are not looking to experiment in publishing. They want to publish in the journals with a longstanding history and tradition as well as the highest reputation. Their attitude towards electronic publishing is at this point very

negative. They are aware of it, but as long as it is new and promotion and tenure committees do not accept it, it is too big of a risk for them.

This changes when there are more options to choose from in open access publishing. When in the survey by Rowlands et al. in 2004 open access publishing is actually mentioned in this terminology there are a few changes. As defined in the introduction the awareness of open access is something different than the awareness of the possibility of electronic publishing. The fact that there were now three options, namely self-publishing, green open access and gold open access, has also had an influence on scholars' attitudes. Around the time that the 2004 survey was conducted the gold open access business model was still very new. Not a lot of scholars were aware of this way of publishing, and the business model was received very negatively. A lot of the respondents said in this survey that they did not accept this business model. This negative attitude towards gold open access could be the result of the low level of awareness of this new publishing model in which the author pays. The respondents were however much more positive about the green road to open access, and over 50% of them intended to make their future work available this way.

But as the years go by the awareness of open access publishing grows. In the Study of Open Access Publishing that was done in 2010 there was even a survey within the survey with questions about authors' experience with open access publishing. This study was focussed entirely on the gold road to open access, therefore respondents were asked for example how much they had paid for publishing their work in an open access journal. The mere fact that 50% of the respondents did actually pay for publishing shows that by this time the gold business model is much better accepted among scholars than it was in the beginning. Scholars' attitudes might have changed because they knew more about it, and because open access publishing has become much more common since 2004.

3.2 Overview of changes by focus points

Changes in scholars' awareness of open access

Throughout the years an increase in awareness is clearly visible. This is however not an easy matter, because there are of course two ways of being aware in this case. It is one thing to know that open access exists and that it is possible to make work available this way, it is an entirely different thing to actually know how to publish an article in open access in one way or the other. In most of the studies it is this first kind of awareness that is studied. This kind of awareness

increases a lot over the years, and especially in the last three years awareness has risen to around 90%. In the Taylor and Francis study of 2014 it is even assumed that respondents know what open access is. However, in some of the studies there are some remarks about the actual understanding that scholars have of the process of making their work available in open access. In the Study of Open Access Publishing of 2010 some respondents said that they did not publish their work in an open access journal because they felt unfamiliar with this way of publishing. In the Taylor and Francis study some respondents indicated that they did not understand their publisher's policy about putting work in an institutional repository.

Not every study fits in this chronology that shows an increase in awareness. The Kocken and Wical study of 2011 shows that awareness at this small liberal arts university was much lower than would be expected when looking at the other results. This is relevant to this study because it shows that the level of awareness might really depend on who you ask.

OA and career advancement

For scholars publishing is very closely related to career advancement. Publishing in the journals with the best reputation and the highest quality is very important, because that is what tenure and promotion committees look at when they decide who deserves to be promoted. Therefore career advancement plays a role in research about open access publishing. Especially at the beginning respondents indicated that it was very important to them to publish in a journal that was accepted by tenure and promotion committees. Scholars were very hesitant to choose to publish in an electronic or open access journal, they felt that experimenting could threaten their chances of a promotion. The results of the first survey show that mostly full professors intended to publish in an electronic journal, together with the master students who might not be that familiar with advancing in their career yet. It took quite some time for tenure and promotion committees to accept electronic publications as well as open access publications.

The prospect of career advancement influences scholars' attitudes towards open access publishing. In the 1999 study by Brown and Swan the respondents indicated that career advancement was the second most important reason for publishing. Respondents admitted that they thought that in the future the main reason for publishing would be for the authors to build a reputation. But in a comment in the 2004 study by Rowlands et al. a respondent expressed that the focus on the 'top journals' was too strong. And in the Study of Open Access Publishing in 2010 ten percent of the respondents thought that open access could be beneficial for scholars'

careers as well. This shows that scholars' attitudes towards this has changed a little bit. However, the fact that more traditional publishers have adopted a hybrid open access model for their journals shows that scholars can combine career advancement and open access. It is possible to publish in the journals with the highest reputations and make it freely available upon publication. This combination could change scholars' attitudes towards open access publishing in a positive way.

Scholars' preferences and needs in publishing

Scholars' preferences and needs in publishing are a factor that has a clear influence on their attitude towards open access publishing. Especially when electronic and open access publishing were still very new scholars saw a large difference between these new ways of publishing and the traditional journals. These traditional journals usually have a longstanding history, a high impact factor and reputation, a broad international reach, coverage by abstracting and indexing services and they are specialised in certain subjects. With these journals scholars know exactly how the publishing process goes and how long it usually takes for an article to be published. Scholars therefore tend to choose this traditional way of publishing also out of a feeling of familiarity.

There are however authors who have different or adjusted preferences and needs. There are authors who have tried to publish in a traditional journal that was their first choice, but were rejected. They have adjusted their preferences and needs, they are willing to go for a journal that scores lower on the factors named above because acceptance becomes a more important need. The younger authors also have different preferences and needs than their older colleagues. Some of them are more used to new technologies, therefore they have a different perspective on electronic publishing. Others are really committed to open access publishing because they feel that everyone should have access to their work, including teachers and students who would otherwise not have access. They prefer their work to be available and accessible to everyone who is interested.

In the two paragraphs above a comparison is made between traditional print based publishing at one side and electronic and open access publishing at the other side. However, authors who already chose to publish in an open access journal also have needs. Their main need is rigorous peer review; more about this will follow below. The second important need is fast publication. It used to be very common that scholars had to wait a year or longer for their article to be published. This has decreased over the years, because of all sorts of new means of communication. But still the speed of publishing is not always as high as scholars would want it to

be. There is always the risk that the information in an article is already outdated by the time it is published. Therefore speed of publishing has become one of the most important needs that scholars have nowadays.

The speed of publication depends very much on the publisher, some scholars' attitudes are therefore positively influenced by the guaranteed speed of publishing in open access journals. While the attitude of other scholars is influenced negatively because they were disappointed as their high expectations of the speed were not met by the open access publisher.

Green versus gold open access

The option to choose from green or gold open access is only first mentioned in the study by Rowlands et al. in 2004. As was explained above, the awareness of both forms of open access was still very low at the time, but scholars did especially not know much about gold. The gold open access business model where the author pays was not accepted by the respondents of the 2004 study. They were not willing to pay for publication. This is the reason why green open access was more appealing to them. The green way to open access allows them to keep publishing their work like they have always done it, the only thing they would then have to do is to send it to their institutional repository. However, in the 2010 study half of the respondents did pay for open access publishing, this shows that their attitudes and actions have changed in a way that is positive in respect to open access publishing. So this business model might have been something scholars just had to get used to, also because of the mandates about open access that some governments have implemented or will implement in the future.

But the preference for green or gold might just depend on who you ask. An example of this is the Taylor and Francis survey, in which all the respondents were asked to participate after they had published in a subscription based journal. Some of the respondents did also publish in an open access journal, but most of the respondents indicated that they preferred the green way over the gold way to open access.

Quality and peer review in OA

As mentioned above scholars think that in electronic and open access publishing more articles are accepted for publication. For this reason they have the idea that open access journals will therefore be of lower quality than the subscription journals that are known to accept only the very best articles. The fact is that open access journals actually do accept more articles, however

this does not necessarily mean that the quality is actually lower as well. This depends on the criteria that are used during the peer review process.

Quality and peer review has since the beginning of open access been the main concern that scholars have when it comes to open access publishing. Some scholars who responded to one of the surveys even said that they chose not to publish in an open access journal because they were concerned about quality and peer review. And the fact that there are lists of predatory journals available on the internet shows that they might have a point.

When scholars do consider publishing in an open access journal they prefer the peer review to be thorough. Respondents to the Taylor and Francis survey indicated that they want not only the soundness of the research to be checked but also the novelty of the work and its relevance to the field. This kind of rigorous peer review is usually not offered by the bigger open access publishers, this could be an influence on scholars' decision where to publish.

Cost of OA and funding

The kind of cost and funding that is referred to in the focus point 'cost of OA and funding' changes over the years. In the first few studies the costs that were mentioned concerned the production and distribution of the journals. When print journals were compared with electronic journals the costs would be a factor that was in the favour of the electronic journals which were much cheaper to produce and distribute than paper journals.

This changed with the opening of the gold road to open access with its author pays business model. Suddenly the word costs referred to the price that the author had to pay to get his or her work published. As was mentioned above authors did at first not accept this model. However, when they did accept this business model a few years later, it was clear that there was a lack of funding to be able to pay for the costs of open access. Respondents to several of the surveys said that they did not publish in an open access journal because they did not have the money for it and it was hard to get funding.

3.3 Did changes and developments in open access publishing cause scholars' attitudes and awareness towards open access publishing to change over time?

One of the aims of this thesis was to prove through this overview that changes and developments in open access publishing have caused scholars' attitudes and awareness towards open access publishing to change over time.

The overview does show a change in scholars' attitudes and awareness in open access publishing throughout time. Some of the changes in attitude are easy to trace back to a specific development in the publishing process. This is the case for the emergence of the gold open access business model where the author has to pay, this has clearly had a negative influence on the attitudes of scholars. However, when scholars became used to the idea, and when traditional publishers with a highly respectable reputation offered the option of hybrid open access journals the attitude of some scholars changed again.

Another change is identifiable in the quality aspect of open access publishing. At first it was the transition from print to digital that influenced scholars' attitudes towards electronic publishing at that time. They were afraid that much more articles would now be accepted for publication and that that thus meant that the quality would decrease. This attitude towards electronic publishing is caused by the fact that the technology is different than what they were used to. Thus their attitudes changed as a direct result of a change in publishing. Later on when they have accepted electronic publishing this quality issue returns when different kinds of peer review are being used by different kinds of publishers. Many scholars prefer the peer review to be thorough. Their attitudes towards open access publishing changed negatively when they learned about the different kinds of less rigorous peer review that are practiced.

The increase of publishing speed is another identifiable development that caused some scholars to change their mind about open access publishing. The fact that open access journals succeeded to publish articles within a couple of months instead of a year or even more was for some authors a reason to choose open access.

Still these identifiable developments are not the only proof that changes and developments in open access publishing caused scholars' attitudes and awareness of open access to change over time. The results also show a pattern of change especially in scholars' attitudes towards open access publishing. Many of the developments named above did not immediately caused scholars to change their mind about open access. However the results do show that in the end scholars are much more inclined to submit to an open access journal than they were before. When changes have just occurred scholars' attitudes are most of the time influenced negatively, like at the time that the gold open access model had just been introduced. But a few years later many scholars had already changed their mind and their attitude about it. This pattern also goes for the transition to electronic journal publishing.

4. Conclusion

The aim of this thesis was to give an overview of scholars' awareness and attitude towards open access publishing and to prove through this overview that changes and developments in open access publishing have caused scholars' attitudes and awareness towards open access publishing to change over time. By summarising and analysing eight survey studies that have been conducted between 1992 and 2014 it was possible to see changes that have occurred over time.

A lot has changed in publishing since 1992. At the beginning of this time period electronic publishing was still a very new technology that was not used much by scholars yet. The majority of respondents to the first few studies did not submit articles for publication in an electronic journal. They feared that these electronic journals that did not have a limit in pages would be of lower quality because more work would be published and articles would be less concise. For many authors this was too experimental for their taste, they preferred to publish their articles with the traditional publisher who satisfied all their publishing needs. The journals they published were known for their good reputation and high impact factor, abstracting and indexing services covered their articles and the journals reached a readership all over the world. Of course these publishers also started to publish their journals electronically besides in print, and researchers slowly got used to accessing electronic journals.

The 2004 study is the first of the eight studies where questions are asked about green and gold open access publishing. Scholars are at this time not yet very aware of what green and especially gold open access entails. Green open access was something that they intended to do in the future, but commercial gold open access was a business model that they would not accept. Scholars' awareness of both forms of open access gradually increased over the years. By the time of the Study of Open Access Publishing in 2010 a lot of scholars had already accepted the gold business model and paid to make their articles available this way. Other scholars found a way to publish their work in an open access journal that did not ask for article processing charges. But gold open access also brought the authors some concerns, mostly about quality and funding. Open access publishers usually use their own method of peer review. Different publishers use different methods, and some kinds of peer review are more thorough than others. The big open access publishers usually only check the soundness of the work and not the novelty of the research. However, peer review is a lot faster with these publishers, and thus the article will be published shortly after submission. Another concern that scholars have with open access publishing is the

cost of it. Some authors are unable to pay the article processing charges and they find it very hard to find funding for this. These authors would be willing to publish in an open access journal but they cannot afford it. These concerns are at the same time the reason that these authors prefer the green road to open access. This allows them to publish their work with a publisher without concerns about article processing charges or the rigorousness of the peer review and still make their work available to their peers and the general public, albeit with a delay.

All in all there have been visible changes in scholars awareness and attitudes towards open access publishing. The results of the different surveys that were analysed in this thesis show that awareness has gradually increased over the years, aside from the results of the 2011 study by Kocken and Wical. When it comes to scholars' attitudes there is a pattern. There is a trend where scholars' attitudes tend to be influenced negatively when change has just occurred, but when they get used to the changes their attitude becomes more positive.

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