

Open Access: Awareness and Attitudes Amongst the Author Community

Paul MacKenzie-Cummins
Head of Corporate Communications
InTech
University Campus STeP Ri
Slavka Krautzeka 83/A
51000 Rijeka
Croatia

e-mail: mackenzie@intechweb.org
Phone: +385 (51) 770 447
Fax: +385 (51) 686 166

1. Executive Summary

In September 2011, InTech invited 27,233 authors to participate in a survey to examine their awareness of, and attitudes towards, the Open Access (OA) publishing model. Contact data was purchased from an independent list broker – Mardev – in the following subject areas: medicine, biological sciences, engineering, computer & information science, technology, earth sciences and materials science. The survey attracted 275 responses of which 253 completed it. This paper outlines the findings from that survey.

1.1 Levels of Awareness of Open Access

While Open Access (OA), as a concept, has been around for over a decade and remains the subject of many a heated discussion by publishers and librarians alike, it has taken much longer for awareness of the model to filter down to the author community – who should eventually stand to gain most from the barrier-free access to their work that OA brings with it.

However, the author community is gradually becoming more aware of OA. In 2007 Swan and Brown¹ found 19% of researchers were very familiar with Open Access and 33% were familiar with the concept. The InTech survey, carried out in September 2011 found that 51% of participants said they understand OA publishing and a further 36% said they had some knowledge of it. Similarly, research from a recent study by PEER² in 2011 shows that more than two thirds of respondents in their phase one survey correctly understood what Open Access means.

In our survey we found that levels of awareness of OA varies across different disciplines. Participants in our survey from life sciences are more aware of OA and have greater experience of publishing with an OA publisher, particularly for journals. At the other end of the scale, participants from the earth sciences and technology have lower awareness and OA publishing experience. This echoes findings from Björk et al. (2010), that Gold OA is prominent in the life sciences³, whereas self-archiving is better developed in disciplines such as earth sciences, physics and astronomy.

The InTech survey also looked at awareness of OA publishers. Awareness of InTech, Hindawi, PLoS, BioMed Central and Bentham was between 25% and 35% among those surveyed.

1.2 Attitudes towards Open Access

Attitudes towards the OA model are generally favourable. A SOAP survey⁴ carried out in 2010, and published in January 2011, found that 90% of researchers who participated were convinced OA is beneficial for their research field.

Despite this growing awareness and support for the principles of Open Access, uptake by authors still remains relatively low. A previous study by SOAP⁵ found that only 8-10% articles are published annually in OA journals. At InTech our recent survey of authors found that 56% of participants had never published with an Open Access publisher. However 26% of participants had done so for a journal article and 10% had published in an Open Access book.

So, awareness remains higher than participation, although participation is increasing as the number of OA publishing options expands. As Swan and Brown suggested back in 2007⁶, “Being familiar with a concept is one thing, knowing how to make one’s own research output available in an Open Access manner is quite different”.

What then are the factors preventing wider demand for OA from authors? Perhaps the most obvious factor is that most publications are not Open Access, so volume is on the side of conventional publishing. But another key factor perhaps is the perception of the direct benefits to an individual author that OA offers. The SOAP study⁷ shows that while many researchers are aware of the benefit of OA for the research community in general, fewer researchers understood the personal benefits for them. If authors do not perceive OA to offer them direct and tangible personal benefits then they are unlikely to change their publishing habits.

The InTech survey asked researchers what services needed improvement and the three services mentioned all focused on helping promote the authors’ visibility and profile, helping them build their career:

- PR and media services to help your work get noticed
- Post-publication information on usage/citations/peer feedback
- Promoting the author effectively alongside their work

Until OA publishers can effectively and clearly demonstrate the personal benefits of OA publishing to researchers, they may continue to publish through methods which they are more familiar with and where the personal rewards are better understood (e.g. the career advantages of publishing in a conventional subscription journal with a high impact factor). Increased pressure from influential stakeholders in the industry such as university departments and funding bodies could help encourage researchers towards choosing OA more often (but this too of course relates back to career progression).

Publication charges are generally thought to be the main reason for dissuading researchers from publishing in an Open Access publication. Our survey found that 32% of participants who considered this question were not willing to pay an author publication fee even if it guarantees free unrestricted online access to their work. 38% said they would only pay a fee in exceptional circumstances. OA publishers need to provide additional value-added services and evidence to persuade authors of the benefits if we are to see

more rapid migration towards the OA model.

Our research suggests that greater awareness of OA will eventually lead to greater uptake as author charges become less of a barrier. Participants from the Biological Sciences have the greatest awareness and experience in publishing, and this group are more likely to pay a publication fee, only 14% said they would not be prepared to pay publication charges. In subjects where there is low awareness of Open Access, such as Earth Sciences, Technology and Medicine, there is actually a comparatively high willingness to pay author charges (over 40%). This suggests that instead their lack of awareness has been a factor in preventing them publishing in Open Access publications.

Finally, a lack of impact factor can also be a restricting issue for OA publishing. However, as OA journals become more established and receive an impact factor they can compete on a more even footing with traditional journals, thereby bringing them into the conventional system of recognition and reward for authors.

1.3 Factors that influence authors' publishing choices

Our survey investigated the attributes important to researchers when selecting where to publish their work. For journal articles the most important attributes were journal name and reputation, the journal's impact factor and a thorough peer review process. This supports the ALPSP⁸ research that identified journal reputation as the most important factor in an author's decision of where to publish.

A recent piece of research into OA uptake which was commissioned by the Research Communications Strategy Project at the University of Nottingham's Centre for Research Communications⁹ suggests that researchers' decision-making process of where to publish is a complex one and more often than not depends on what they are trying to achieve with a particular article. While in some cases OA publishing may be beneficial because speed of publishing may be crucial to stake their claim in a particular field, in other cases the researcher may want to publish more traditional findings in a more established journal. By providing clear guidance and education, OA publishers can help authors decide if OA is the better model for them.

Our survey also investigated the attributes authors look for when publishing in books. The top three attributes were the image and reputation of the publisher, quality of the print production and no charge to the author for publication. The Open Access movement has predominantly operated in the journals market. While 26% of the authors who completed our survey question on Open Access publishing experience had published in an Open Access journal, fewer had published in an Open Access book (10%). However, this is an area of likely growth over the next 5-10 years.

1.4 Accelerating the uptake of OA

One might anticipate that a researchers' institution would be the main source of information about Open Access. However, some institutions are better than others at educating authors about the benefits of this model, for example Princeton has introduced an Open Access mandate that means all authors have to retain the copyright for their work when they publish it. Research into this area by Swan and Brown in 2006 on behalf of JISC¹⁰ found that "Librarians can, and do, use a variety of ways to try to explain the principles and benefits of OA to their researchers but they are frequently not effective". They concluded that on the whole Open Access publishers and organizations such as arXiv are better at educating researchers.

In conclusion, we believe that publishing activity in Open Access publications will increase over the next five years, however there is a good deal more work to do to build a deeper understanding of the benefits of Open Access publishing to authors in the meantime. While libraries have a role to play here, they often focus on self-archiving or Green OA. Open Access publishers could increase their role in engaging with the author community, particularly in subjects where awareness is lower, to provide evidence of how publishing with an Open Access publisher can benefit them. Open Access publishers also need to provide services to advance authors' careers, and work with institutions and funding bodies to encourage them to publish their work with an OA publisher.

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1.a.i.1 About InTech

InTech is a multidisciplinary Open Access publisher of books and journals covering the fields of Science, Technology and Medicine. Since 2004, InTech has published more than 1,000 books and have provided publishing services to over 60,000 authors, providing free online access to high-quality research, and helping leading academics make their work visible and accessible to diverse new audiences around the world.

2.0 Research overview

An online survey was run in September 2011 to gauge the needs and opinions of the author community and their understanding of the Open Access publishing model.

2.1 Objectives

The aim of the research was to understand:

- What authors look for when selecting a publisher
- Current opinions of the Open Access business model
- Awareness of Open Access publishers
- The services authors want from publishers

2.2 Methodology

The online survey was conducted in September 2011 and sent out in an email to 27,233 researchers.

The list of data was purchased from an independent list-broker called Mardev and included researchers in the following subject areas: medicine, biological sciences, engineering, computer & information science, technology, earth sciences and materials science.

The HTML email was delivered to 21,007 (77.14%) recipients. There was an open rate of 13.54% (2,845) and a click-through rate of 2.74%. Of the 575 click-throughs, 121 went to the InTech website and 454 went to the online survey.

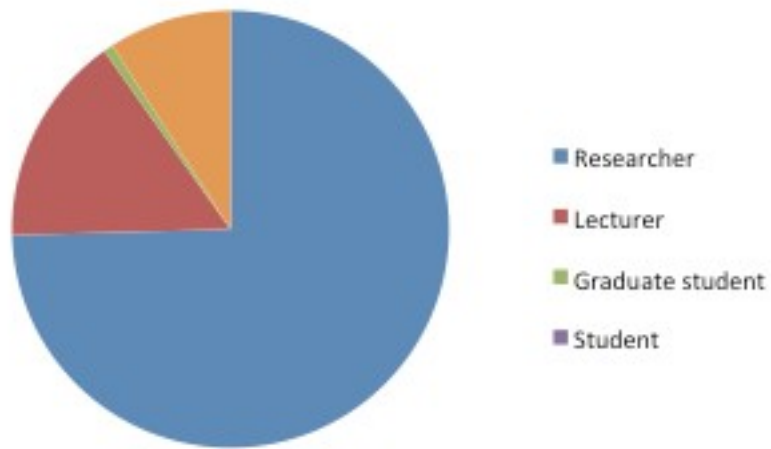
275 participants took part in the online survey, which indicates a response rate of 1.3%. Of the participants that started the survey, 253 (92%) completed it. The survey responses are summarised in the following sections.

3 Survey findings

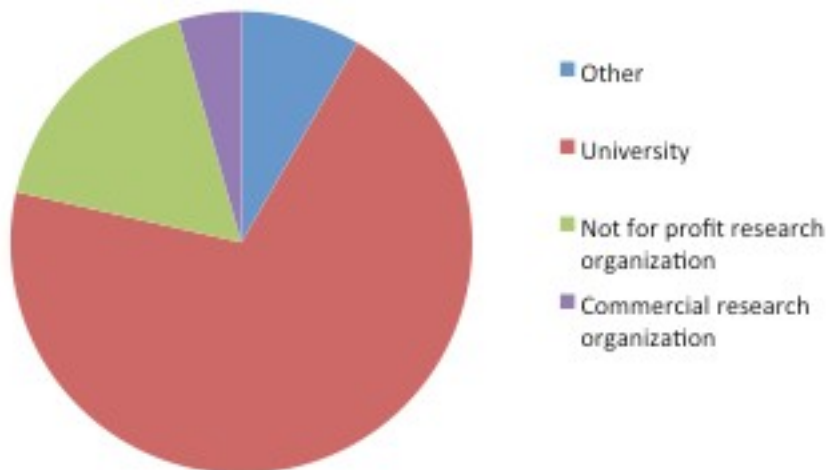
3.1 Profile of Participants

From the 275 participants that started this research, the majority of respondents were researchers (75%) based at a university (70%).

What is your primary job role?



Where do you primarily work?



Other organizations listed as a primary work place included hospitals, research institutions and government.

Participants came from a broad selection of regions across the world:

52.0% of participants were from Europe

21.5% from Asia

16.4% from North America

4.4% from the Middle East

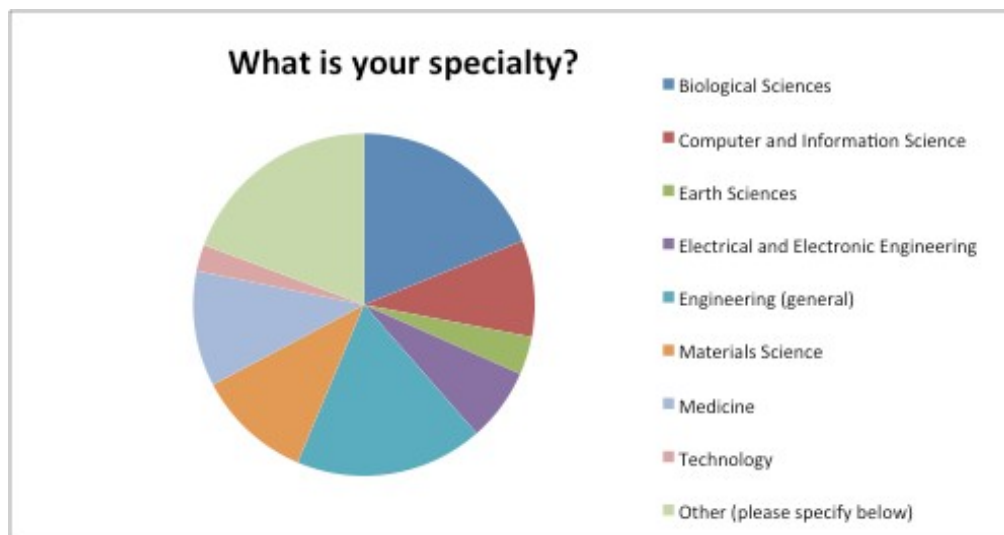
3.6% from Latin America

1.1% from Australasia

1.1% from Africa

Top 10 countries with the most participants:	Region	Response Percent	Response Count
1. United States	North America	10.9%	30
2. China	Asia	8.0%	22
3. Spain	Europe	6.2%	17
4. Italy	Europe	5.5%	15
5. Japan	Asia	4.4%	12
6. Canada	North America	4.0%	11
7. France	Europe	3.6%	10
8. Germany	Europe	3.6%	10
9. United Kingdom	Europe	3.7%	10
10. India	Asia	3.3%	9

The subject fields from which the largest proportion of participants came were Biological science (19%) and engineering (25%). 19% of participants selected 'other'. Of these, 25% were in chemistry related subjects.



4 Publishing Experience

4.1 Comparing books and journals

Journal article publishing activity was more common among researchers and more frequent than for book publishing.

220 participants (80% of the total participants surveyed) had published in a book before – Of these 9% said they published in books often, 42% said occasionally and 49% said rarely.

257 participants (94% of total participants) had written articles for journals before – Of these, 34% said they published in journals very frequently, 48% said often and 19% said occasionally.

4.2 Attributes important when selecting a publisher

4.2.1 Book publishing

Those who had published in a book (220 participants) were asked to rank each attribute important to them in selecting a publisher, in order of importance. The attributes were then ranked according to how highly they were rated by number of participants:

- The image and reputation of the publisher (67% ranked this in top 3)
- The quality of print production (60% ranked this in top 3)
- No charge to author for publication (60% ranked this in top 3)

Other attributes listed in the free text were an efficient/rapid publication process, interaction with the editor, transparency of the publication process (including peer review, editorial etc.), post-publication review/rating system, discoverability (including distribution and readership), relevance of the publication, affordability and the quality of the other chapters in the book.

Attributes for selecting a publisher for a book or chapter	Importance (score out of 10)
Image and reputation of publisher	7.6
Quality of production (print)	7.3
No charge to the author for publication	7.1
Quality of production (online)	7.0
Thorough peer review process	7.0
Ability of the publisher to market your title effectively	6.9
No charge for readers to access your book online	6.6
Post-publication information on usage/citations/peer feedback	6.5
Author retains copyright	6.1
Level of royalty offered	5.7

4.2.2 Journal publishing

Journal authors (257 participants) were asked to rank each attribute in order of importance. The overall importance for each factor was calculated as above. The attributes given the highest ranking by the most participants were:

- The journal name and reputation (79% ranked this in top 3)
- The journal's impact factor (71% ranked this in top 3)
- A thorough peer review process (70% ranked this in top 3)

Other attributes listed were discoverability i.e. listing in directories such as ISI and regional ones e.g. Norwegian registry, support from editorial, fair, efficient and transparent peer review and relevance of journal scope.

Attributes important to authors publishing in journal articles	Importance (score out of 10)
Journal name and reputation	8.1
Journal impact factor	7.9
Thorough peer review process	7.8
Rapid publication	7.6
International readership	7.6
No charge to the author for publication	7.2
Image and reputation of organization that publishes the journal	6.8
Prestige of editorial board	6.6
No charge for readers to access your article online	6.5
Author retains copyright	6.0

4.3 Open Access Publishing

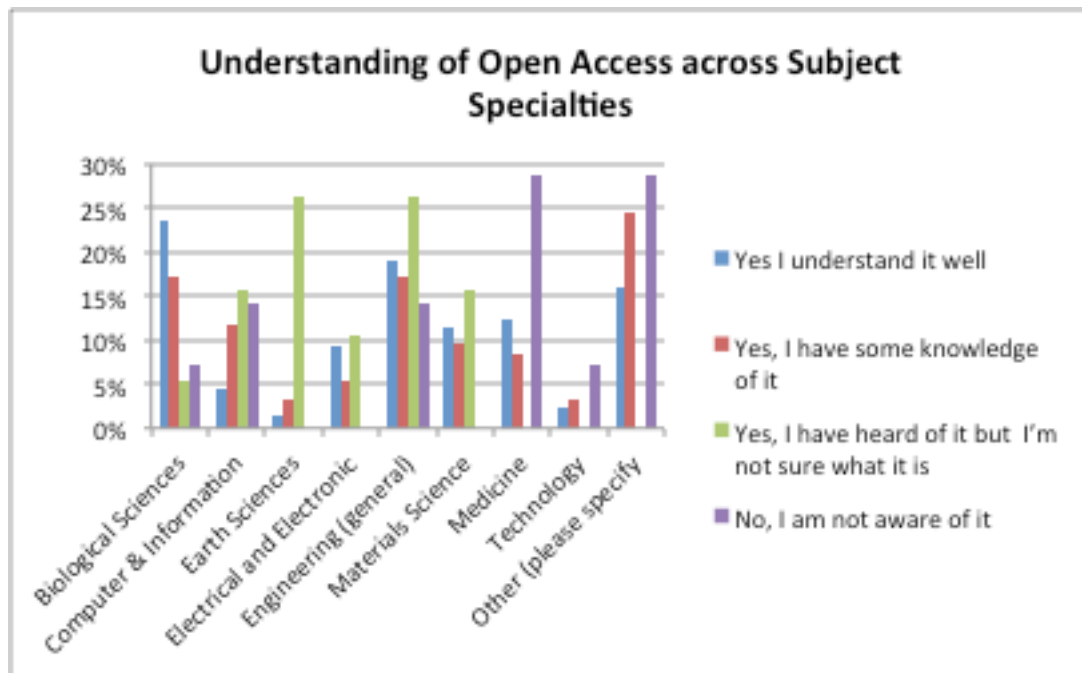
4.3.1 Author understanding of Open Access publishing

51% (of 258 participants who responded when asked) said they understood 'Open Access' publishing, and 36% said they had some knowledge of it. 7.4% said they had heard of it but weren't sure what it was. Only 5.4% said they were not aware of it.

Geographically, there was little variation between participants' awareness but some differences could be seen across different subject fields.

Subject comparison

Researches in Biological Sciences, Engineering and Materials Science appear to have a good grasp of what Open Access is. Subject fields such as Technology, Earth Sciences and Computer & Information Science have less awareness of Open Access. Medicine has the weakest awareness of Open Access with the highest proportion of participants saying they are not aware of it.



	Yes I understand it well	Yes, I have some knowledge of it	Yes, I have heard of it but I'm not sure what it is	No, I am not aware of it
Biological Sciences	31	16	1	1
Computer & Information Science	6	11	3	2
Earth Sciences	2	3	5	0
Electrical & Electronic Engineering	12	5	2	0
Engineering (general)	25	16	5	2
Materials Science	15	9	3	0
Medicine	16	8	0	4
Technology	3	3	0	1
Other	21	23	0	4

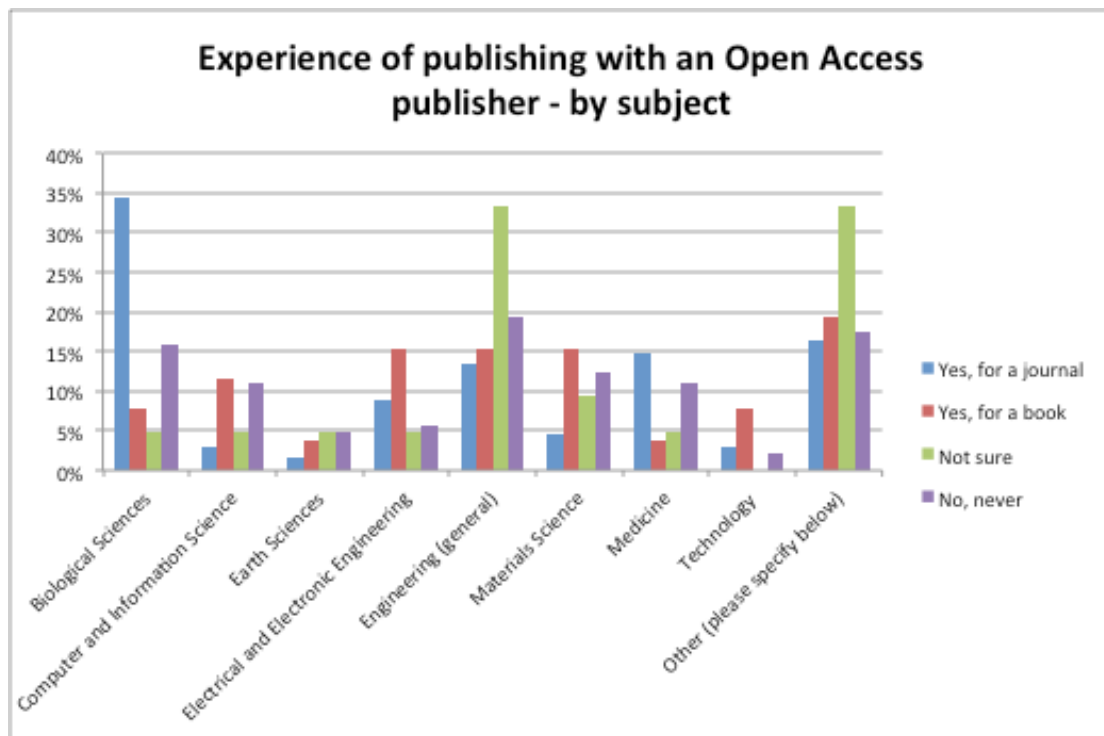
4.3.2 Open Access publishing experience

Experience of publishing with an Open Access publisher was quite low, especially for book publishing. 56% (of the 258 participants who responded) said they had never published with an Open Access publisher. 26% said they had for a journal article and 10% had for a book.

Subject variation

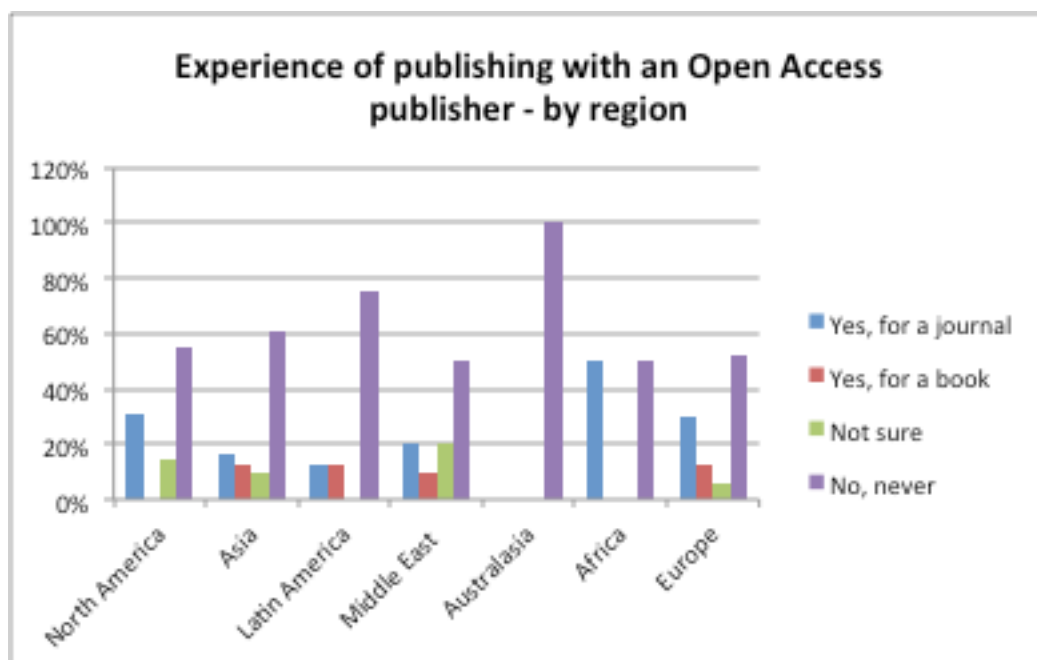
Publishing experience also varied by subject specialty in a similar way to awareness. Participants from the Biological Sciences had greater experience of publishing with an Open Access publisher, particularly in journals. At the other end of the scale, participants from the Earth Sciences and Technology

had both low awareness and less Open Access publishing experience.



Geographic variation

Proportionately more participants said they had experience of publishing in either Open Access books or journals in North America, Africa and Europe. No participants from Australasia had experience of publishing with an Open Access publisher, however there were only three participants in this region so this is perhaps not representative.



Region	Yes, for a journal	Yes, for a book	Not sure	No, never
North America	13	0	6	23
Asia	9	7	5	33
Latin America	1	1	0	6
Middle East	2	1	2	5
Australasia	0	0	0	3
Africa	1	0	0	1
Europe	41	17	8	73

4.3.3 Willingness to pay to make their chapter/article Open Access

Overall, 32% of the 256 participants who responded to this question said they were not willing to pay an author publication fee even if it guarantees free unrestricted online access to their chapter or article for perpetuity. 38% would only pay in exceptional circumstances, while 30% said they would be willing to pay if it helped ensure the widest possible audience for their work.

Anecdotal comments on author fees

“This would be like buying my academic status.”

“I would not be prepared to pay publication charges if the charges are too expensive.”

“This strongly depends on the cost. \$50 is no problem, \$1000 is way too much.”

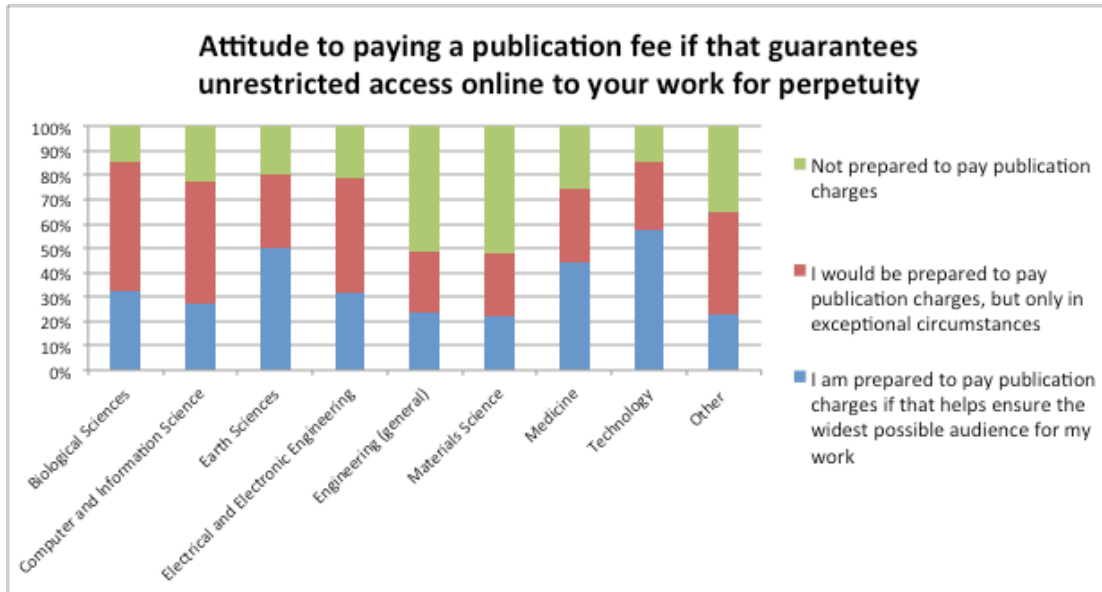
“It would be best to have Institutional contracts that cover the charges (like BioMed Central).”

“I can self publish for much less, and have full control of price and profit.”

“I don't really give a **** who publishes my work as long as it is valued by my peers.”

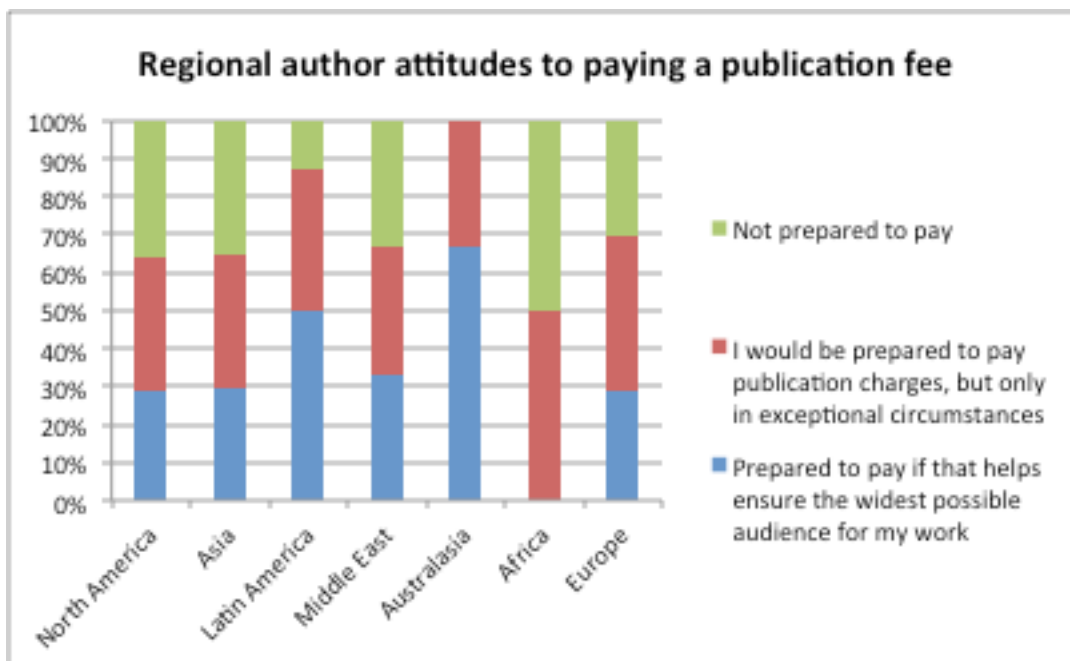
Subject variations in attitude to author fees

Participants from the Biological Sciences have the greatest awareness and experience in publishing, and as you may expect there are proportionately fewer of these participants who would not be prepared to pay publication charges (14%). Interestingly, in subjects where there is low awareness of Open Access, such as Earth Sciences, Technology and Medicine, there is actually a high willingness to pay author charges. This suggests that their lack of awareness has prevented them publishing in Open Access publications, rather than the author fees.



Geographic variations in opinions towards author publishing fees

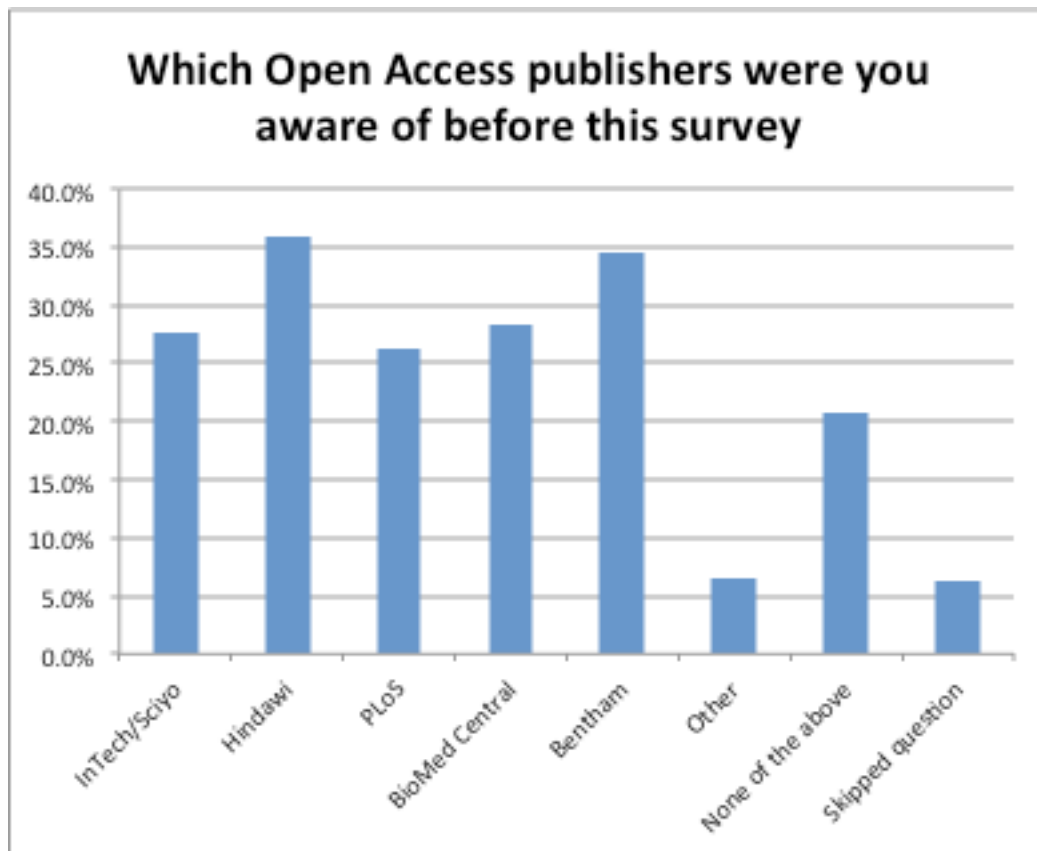
The only exceptional regions are participants from Australasia, for showing the most willingness to pay, and Africa, for showing the least willingness to pay. This may be linked to an ability to pay as countries from Africa may be less likely to direct funding to research and technology limitations make the likelihood of researchers getting access to articles lower, however it is important to note the number of participants from each region are very low and so this may not be representative of the opinions of all researchers in these regions.



4.4 Awareness of Open Access Publishers

The survey tests participants' awareness of all Open Access publishers was

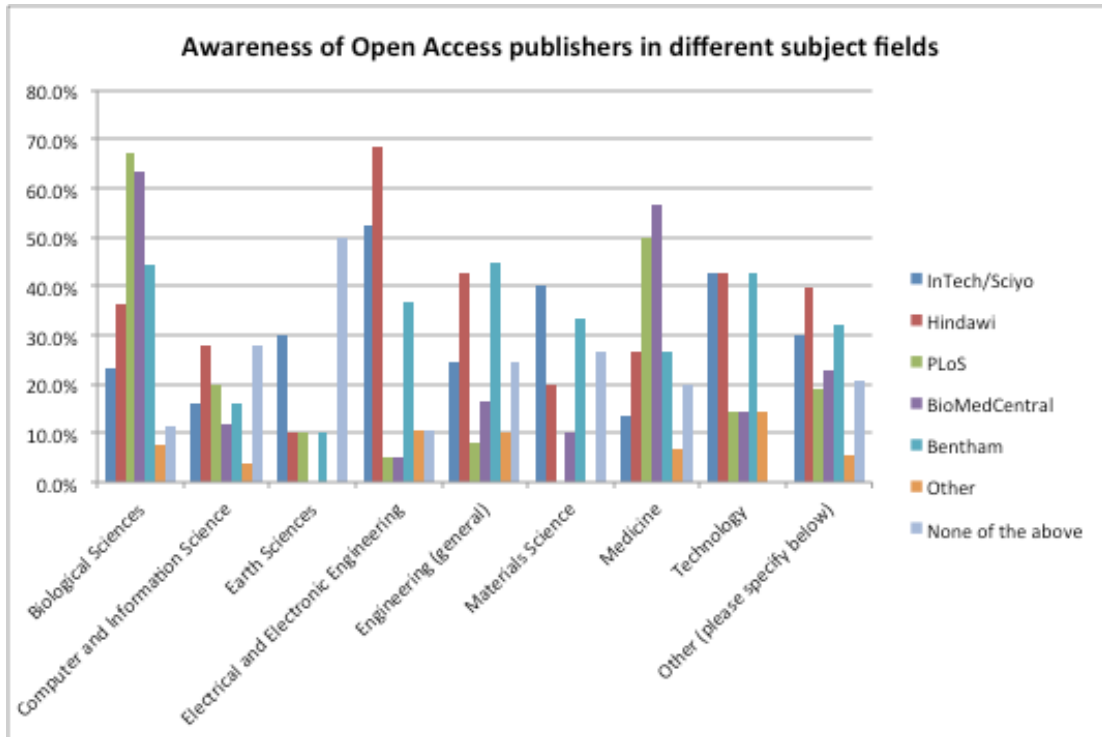
fairly even across the board.



Other publishers listed in the free text for 'other' include some traditional publishers such as Elsevier, APS, IOP, EPS, Oxford University Press, Springer and Nature; some institutions such as King Fahd University for Petroleum and Minerals publisher; some journals were listed e.g. New Journal of Physics, PNAS and Journal of Cell Science; as well as some smaller publishers such as NOVA, Pagepress, Dove Press and Scipub. These answers would indicate that there is some confusion about what is meant by an Open Access publisher.

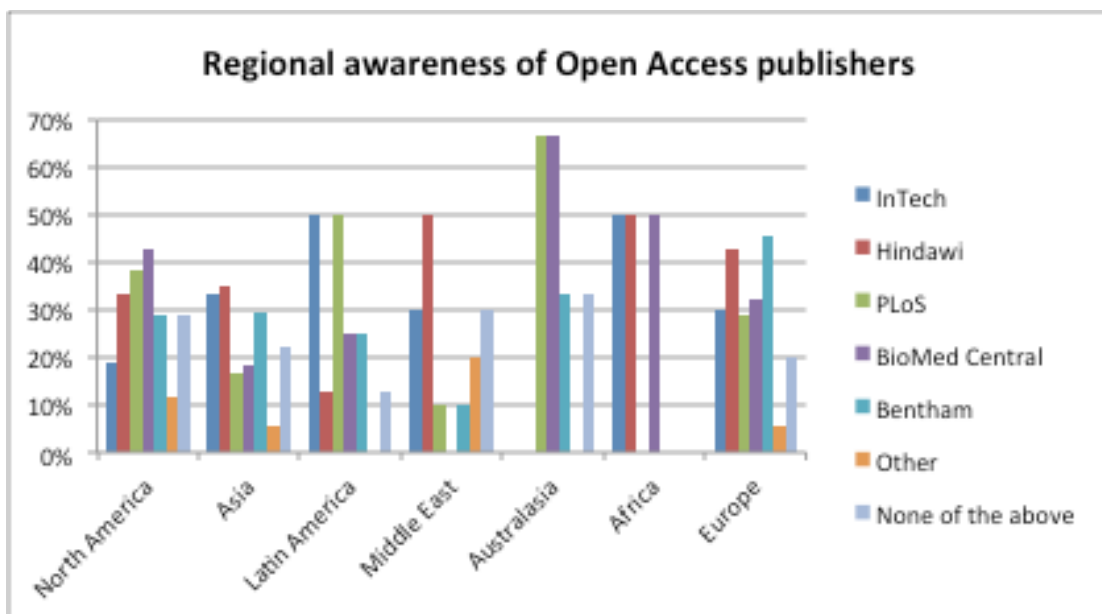
Specialty differences in OA publisher awareness

There appears to be a difference between OA publisher awareness in different subject fields. Researchers in Medicine and Biological Sciences who completed this survey have a greater awareness of PLoS and BioMed Central, while researchers in Technology and Engineering fields tend to be more aware of Hindawi and InTech.



Regional differences in OA publisher awareness

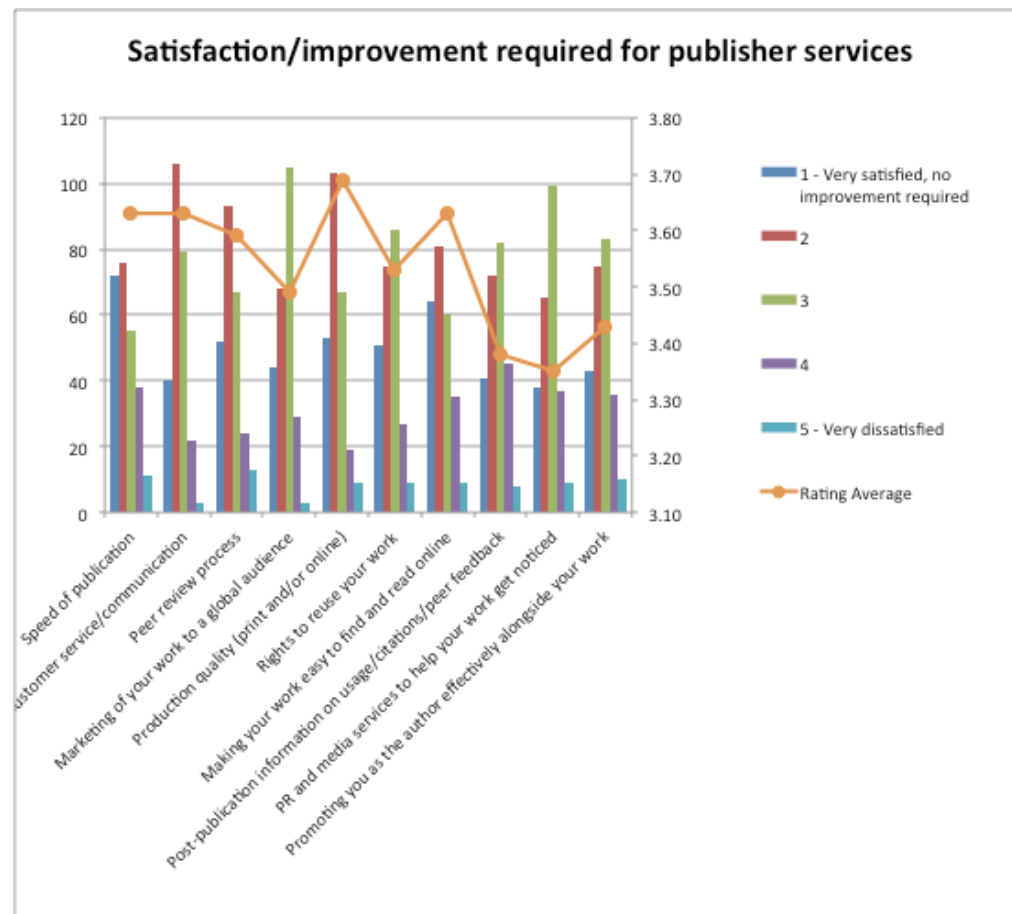
While PLoS and BioMed Central appear to be well known among the participants in North America and Australasia, they appear less well known in emerging economies such as Asia and the Middle East. Awareness of InTech is comparatively high for these emerging regions. However, InTech needs to improve its profile in the critical markets of North America, Europe and Australasia.



4.5 Publishing Services

Participants were asked to score their satisfaction of publisher services on a

scale of 1-5 to indicate where improvement was required.



An average rating score indicates the satisfaction of the population with each service. The services that were scored the highest by most participants i.e. most satisfaction were:

- Production quality
- Speed of publication
- Making authors' work easy to find and read online
- Customer service/communication

The services where the average rating score was the lowest i.e. the greatest number of participants indicated improvement was required were:

- PR and media services to help your work get noticed
- Post-publication information on usage/citations/peer feedback
- Promoting the author effectively alongside their work

Anecdotal feedback for how publishers can improve their services

“Streamline the process of correction.”

“Provide accessible and understandable guidelines. For most authors writing readable books and papers is a challenge.”

“Provide post-publication dissemination.”

“No fee to author for publication, transparent on-line peer review process, no charge for on-line users, user feedback / rating system, charge only for print on demand with royalty share paid to authors.”

“Make a better selection of the reviewers of articles / book chapters / books.”

- 1" Researcher Awareness and Access to Open Access Content through Libraries: A study for the JISC Scholarly Communications Group. Alma Swan & Sheridan Brown (June 2007)
- 2 PEER Behavioural Research: Authors and Users vis-à-vis Journals and Repositories Final Report, August 2011
- 3 Björk, B., Welling, P., Laakso, M., Majlender, P., Hedlund, T., Guönason, G. (2010) Open access to the scientific journal literature: situation 2009. *PLOS One*, 5(6).
- 4" Highlights from the SOAP project survey: What Scientists Think about Open Access Publishing. January 2011. <http://project-soap.eu/>
- 5" Dallmeier-Tiessen, Suenje, Darby, Robert, Goerner, Bettina et al, 2010. First results of the SOAP project: open access publishing in 2010. <http://arxiv.org/ftp/arxiv/papers/1010/1010.0506.pdf>
- 6" Researcher Awareness and Access to Open Access Content through Libraries: A study for the JISC Scholarly Communications Group. Alma Swan & Sheridan Brown (June 2007)
- 7" Highlights from the SOAP project survey: What Scientists Think about Open Access Publishing. January 2011. <http://project-soap.eu/>
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- 9" A further exploration of the views of chemists and economists on Open Access issues in the UK (June 2011). Seb Schmoller, David Jennings, Nicky Ferguson.
http://crc.nottingham.ac.uk/projects/rcs/Chemists&EconomistsViews_on_OA.pdf
- 10" Researcher Awareness and Access to Open Access Content through Libraries: A study for the JISC Scholarly Communications Group. Alma Swan & Sheridan Brown (June 2007)