Open Access : Business models

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What is Open Access (OA)?

- Philosophy
  - The international effort to promote unrestricted access to scientific knowledge.
  - The Berlin Declaration (BD) was launched in October 2003 to ensure the free and unrestricted access of everyone to the results of scientific research and to the cultural heritage of mankind.

- Funding model
  - The process of transforming OA philosophy in a sustainable publishing model.

OA and CERN

- CERN already makes papers available online for free, copyright permitting.
- Invent the World Wide Web 15 years ago.
- Grid Computing.
- BD signed by R. Aymar (May 2004) formal support for open access.
- PLoS invitation to CERN authors to summit in *PLoS Medicine* journal.

Modes of OA

Modes	Description	Example
E-print repository	Authors deposit pre-prints and/or post prints in OA repository.	ArXiv.org; Spires; CDS-CERN
All free OA	No authors, no readers fee. On-line only.	Living Reviews of Solar Physics (M. Planck Inst.) Former JHEP
Partial OA	Some articles in an issue are OA.	Many publishers use this for promoting a journal to a wider audience.
Per capita country	OA made available to country based on per capita income.	IOP
Paid OA	"New" publishing paradigm **(business models):** Authors pay to publish. Readers have free access to these works.	Springer Open Choice IOP (New journal of Physics) PLoS

Business models of OA journals

Name	Description	Example
Hybrid model	A journal publishes articles in both subscription and OA model. Determination of subscription fee depends on the number of OA articles.	Springer Open Choice (not yet implemented)
Authors' fee model	Authors/institution pay fee to be published.	IOP – NJP (New journal of physics)
Authors' fee + institutional membership model	Authors/institution pay fee to be published. The authors' fee is determinate by the different membership levels.	PLoS – *Medicine*

Our exercise

To transpose identified OA Business Models to some of the CERN library subscribed titles : What would they mean in financial terms for CERN? What would be an estimated expenditure for CERN?

Ours examples

(1) Hyperfine Interactions in Springer Open choice model = **Determination of the subscription fee**

(2) JHEP in IOP- NJP Model = **Application of authors fee model**

(3) PLoS = **Authors fee + institutional membership model**

Data

Usage statistics.

OA publication and subscription fees.

Impact factors.

Total of articles published by CERN authors.

Hyperfine Interactions in Springer Open Choice model = **Determination of the subscription fee**

FT downloads 2002-2003 = 618
FT corresponding to CERN authors arts. = 226
FT corresponding to Non CERN authors arts. =329
NA = 63

IF = 5.333

Most of the CERN authors from PH, AB and ISOLDE Collaboration.

Publication fee per article = 3690 CHF.

Subscription fee = is based in number of articles into subscription model in the previous 12 months against the 12 months period before. The calculation depends to the number of articles published on the "subscription model"

	Total published articles in HI	CERN authors articles	Total articles under Subscription model	**Estimated subscription fee**	**CERN Estimated Publication Expenditure**	**CERN total Estimated Expenditure**
2000	255	22	233	**3381**	**81180**	**84561**
2001	330	14	316	**4740**	**51660**	**56400**
2002	213	0	213	**3195**	**----**	**3195**
2003	129	5	124	**1860**	**18450**	**20310**

JHEP in IOP- NJP Model = **Application of authors fee model**

NJP	**JHEP**
Current Authors' fee OA **Publication fee per article : 884 CHF**	former All free OA Total arts. published by CERN authors (1999-2003) = 248 Most of CERN authors belong to PH/TH.

Publis.	**Title**	**Articles published by CERN authors 1999-2003**	**Subscr. Fee 2004**	**FT Download 2003**	**Impact factor 2002**
Elsevier	Physics letters B	652	13782.57	7766	4.298
Elsevier	Nuclear physics B : Particle physics. Field theory and statistical systems. Physical mathematics	595	21429.53	3150	5.409
Springer	European physical journal C : Particles and fields	276	6203.83	945	6.162
IOP	**Journal of High Energy Physics**	**248**	**1328.40**	**731**	**6.854**
AIP	Physics review D : Particles, fields, gravitation, and cosmology	164 (data for'00-04)	5342.00	2067	4.358
IOP	Journal of physics G : Nuclear and particle physics	67	3399.78	922	1.399

JHEP in IOP- NJP Model = **Application of authors fee model**

Year	Total articles published in JHEP by CERN authors	Estimated publishing expenditure : fee is shared with co-authors institutions	Estimated publishing expenditure : fee is not shared with co-authors institutions
2003	61	21669	53924
2002	50	23875	44200
2001	64	25162	56576
2000	45	22649	39780
1999	28	15176	24752
1998	13	6042	11492
1997	3	2063	2652

"The results from these two journals (JHEP and NJP) indicate to us that **this type of open access model is not sustainable for physics journals in the current environment**. However the internet and electronic publishing have delivered huge benefits to science and scientists in terms of ease of access to information. Future developments in software and tools will bring further improvements. We believe that it is important to continue to experiment with innovative approaches to electronic publishing."

House of Commons, Science and Technology - Tenth Report - APPENDIX 132 Supplementary evidence from the Institute of Physics April 2004

PLoS = Authors' fee + institutional membership model

Institutional Membership level	Annual Institutional membership fee	Author fee	Cost for 10 articles	Estimated total expenditure for CERN
No member	0	1845	18450	**18647**
Active member	2460	1661	16610	**19070**
Participating member	6150	1476	14760	**20910**
Promoting member	12300	1292	12920	**25200**
Sponsoring member	30750	1107	11070	**41820**
Sustaining member	61500	923	9230	**70730**
Championing member	123000	461	4610	**127610**

Institutional membership recalculate by year …a new "subscription fee"?

To be continued…

- Looking forward a sustainable model…
- Copyright…
- Authors opinions…
- Internals decision : who pays? (budget distribution depts./groups); Administrative steps? …
- Quality of science : Peer review…