



# Open access publishing in Finland: Discipline specific publishing patterns in biomedicine and economics

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## Field differences in scientific communication and work organisation

- Whitley's theory of social organisation of scientific fields (1984)
  - Differences characterised in terms of two dimensions
    - Degree of mutual dependence
      - Associated with the degree of dependence between scientists, colleagues, or particular groups to make a proper research contribution
    - Degree of task uncertainty
      - Associated with differences in patterns of work organisation and control in relation to changing contextual factors



# Outcome on publishing patterns

- When the degree of mutual dependence increases the ways of scientific communication become more controlled and the competition increases.
  - Citation patterns become important in a field with high mutual dependence
  - Publishing patterns become more restricted and standardised



# Outcome on publishing patterns

- High degree of task uncertainty is associated with differences in patterns of work organisation and control. High level leads to personal direct control and theoretical diversity of research. Publishing patterns might be more uncontrolled
  - Technical and strategic task uncertainty
    - Limits technical control of empirical phenomena
    - Makes results more difficult to interpret, gives ways to alternative views and difficulties in coordination



- Whitley characterises Economics as a field with high technical task uncertainty and low strategic task uncertainty
- In the field of economics the problems and goals are restricted and tightly structured, visibility and communication of early results are important.
- Distribution of working papers might be an indication of this fact.



# Discipline specific publishing patterns

- Biomedicine
  - Strong reliance on journal publishing
  - Journal quality more important than open access
  - Policymaking by government and funding bodies important
  - Visibility and reputation important



# Discipline specific publishing patterns

- Economics and Business Administration
  - Long tradition in publishing working papers and research paper series
  - Scientists and community initiative to subject specific service provider of links to full text scientific papers (RePEc)
  - Journal quality important but relatively long publishing time in top journals



# Incentives to publish in open access journals

- Factors depending on social environment
  - Policymaking, governmental policy in science and technology, policy of other funding bodies, interest groups and officials
  - Increased demands of productivity and accountability
  - Internationalisation and strong competition in the scientific field
  - Geographic location (developed – developing countries)
  - Availability of subject based and institutional archives, open access journals
  - The institutional policy to promote open access publishing
  - Communication patterns of the scientific field, for example early adoption to new techniques





# Incentives to publish in open access journals

- Personal factors:
  - The importance of reputation and meriting as a researcher
  - Speed of publication and visibility of research results
  - Personal communication patterns and early adoption to new techniques
  - Personal values



# Methodology

- Collection of published articles from research information registers for the years 2003-2004
- 464 in biomedicine and 130 in economics and BA
  - National Public Health Institute (KTL)
  - Faculty of medicine at the University of Oulu (Oulu)
  - Swedish School of Economics and B. A. (Hanken).
  - Bibliographical information was collected from the reference lists or the subject based database PubMed Central. Open access journal titles were identified using DOAJ, BioMed Central and PubMed Central or in some cases the Ulrich's Periodical Directory of journals.
- Google and Google Scholar used as search engines to locate open access versions



# Results

open access articles according to type of journal publisher

<i>Type of publisher</i>	<b>KTL 2003</b>	<b>KTL 2004</b>	<b>Oulu 2003</b>	<b>Oulu 2004</b>	<b>Hanken 2003</b>	<b>Hanken 2004</b>
Society publ.	43	15	14	18		5
Commercial	10	12	3	1	5	12
BioMedCentral	1	6				
Other OA-journal	5	1		2	1	3
Total	59	34	17	21	6	20



		<b>Number of articles</b>	<b>Found on the Internet</b>	<b>%</b>
<b>KTL</b>	Original articles 2003	178	59	<b>34.14</b>
	Original articles 2004	178	34	<b>19.10</b>
<b>University of Oulu</b>	Original articles 2003	47	17	<b>36.17</b>
	Original articles 2004	77	21	<b>27.27</b>
<b>Hanken</b>	Original articles 2003	63	6	<b>9.5</b>
	Original articles 2004	67	20	<b>29.8</b>

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# Most popular channels

- Medicine
  - Journal pages
  - PMC etc.
  - Institutional repositories
- Economics
  - Institutional/subject based repositories
  - Personal home pages



# Conclusion

## In medicine

- the most important factor in social environment promoting open access publishing are the political and practical initiatives made by National Institute of Health

## In Economics

- The tradition of distribution and publishing of working papers
- The founding of the subject based digital library RePEc.



- The Finnish open access recommendations
  - publishing in open access journal
  - building institutional archives
- Disciplinary specific culture should be recognized more when planning for OA initiatives