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**Epistemic communities in knowledge organization:
an analysis of research trends in the Knowledge
Organization journal**

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Introduction

- Knowledge organization
 - a domain in a continuous process of theoretical-methodological consolidation
- We identified its epistemological configuration and “epistemic communities”
 - In order to measure its impact on society and scholarship

Knowledge Organization (KO) journal

- Scholarly journals disseminate the results of research in a given area of knowledge
 - validation and legitimation of scientific knowledge by the community/ies
- KO journal – officially linked to ISKO (the knowledge organization community)
 - KO states that its research scope is to analyse the impact of knowledge organization on society.

Citation and co-citation analyses

- We to aim to identify the researchers and authors that contribute to the development of the field
 - by means of citation analysis (recognition by peers in the domain and impact)
 - co-citation analysis (relationships and scientific dialogs between researchers)
 - using as a basis the KO journal (the main journal in the domain)

Domain Analysis (DA)

- Hjørland and Albrechtsen (1995)
- Hjørland (2002), lists 11 approaches to DA.
 - he suggests (p. 451) that the combination of more than one of these approaches strengthens the arguments and adds consistency to the DA
- We worked with 3 of these approaches:
 - bibliometrical studies (citation and co-citation analyses)
 - historical studies;
 - epistemological and critical studies;

Domain Analysis (DA)

- Smiraglia states that “[d]omain analysis is one way of generating new knowledge about the interaction of communities of scholars with information. Domain analysis of international research communities brings the promise of new comprehension of how people interact with information in different places” (2011 p.1).
- For Jens-Erik Mai a domain can also be understood as “an area of expertise, a body of literature, or a group of people working together in an organization” (Mai 2005, p.605).

Domain Analysis (DA)

- We also follow Tennis' two axes to delineate an operationalized definition of domain (2003).
 - Axis one - areas of modulation
 - We consider this axis the researchers that contribute to the development of the domain "knowledge organization," by means of citations and co-citations;
 - Axis two - degrees of specialization.
 - to identify, by citation and co-citation analysis, the domain of the researchers that constitute the scientific community in order to characterize the core of researchers that the community recognizes as fundamental, or more impactful, in knowledge organization and its main areas of research.

Methodology

- Stage 1: Characterization of the domain and the core of KO researchers
 - Citation analysis, 220 papers published in KO during the period 1994-2013.
 - diachronic analysis of five-year periods (1994-1998, 1999-2003, 2004-2008, and 2009-2013).
- Stage 2: Impact of the KO core research on scholarly journals.
 - Search on SCOPUS for works that cite the 220 KO papers for the studied period

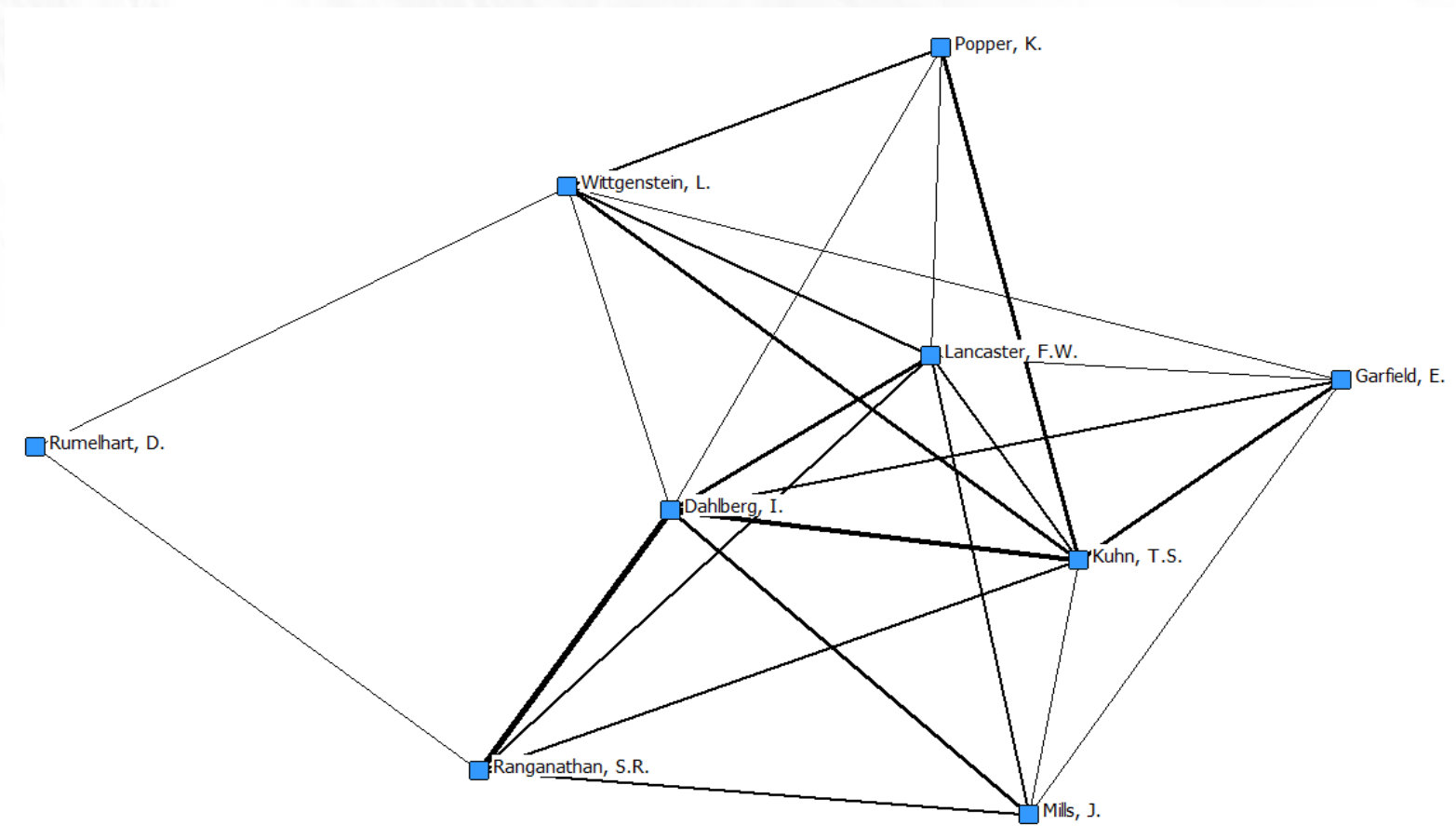
Results - stage 1

- Researchers and number of articles in which they were cited for the period 1994-1998.

Most cited authors	Number of articles in which the author was cited
Dahlberg, I.	18
Ranganathan, S.R.	10
Kuhn, T.S.	8
Lancaster, F.W.	8
Mills, J.	6
Garfield, E.	5
Popper, K.	5
Riggs, F.W.	5
Rumelhart, D.	5
Wittgenstein, L.	5

Results - stage 1

- Network of co-citations of the 9 authors for the period 1994-1998.



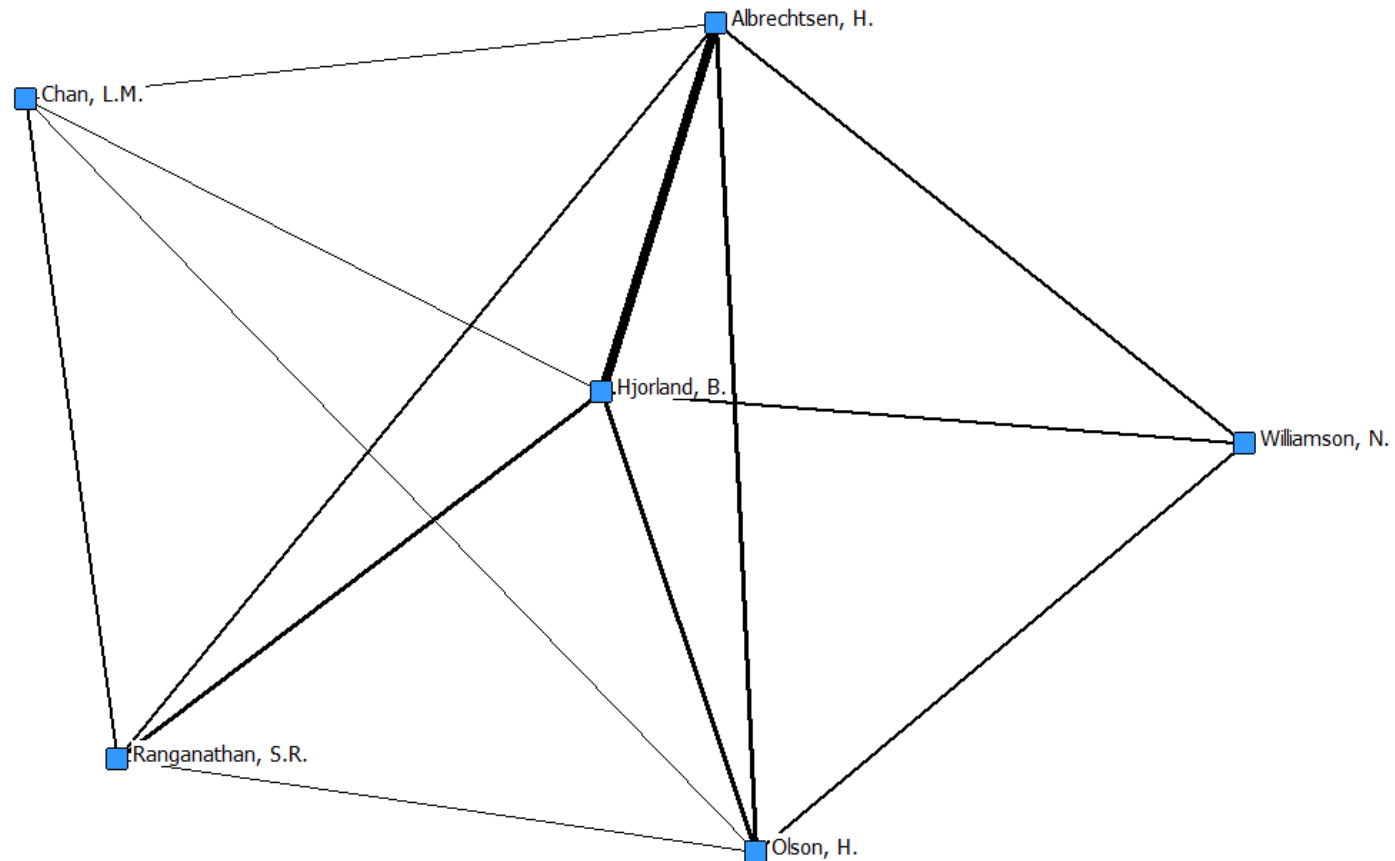
Results - stage 1

- Researchers and number of articles in which they were cited for the period 1999-2003.

Most cited authors	Number of articles in which the author was cited
Hjørland, B.	10
Albrechtsen, H.	9
Olson, H.	6
Ranganathan, S.R.	6
Chan, L.M.	5
Salton, G.	5
Williamson, N.	5

Results - stage 1

- Network of co-citations of the 6 authors for the period 1999-2003.



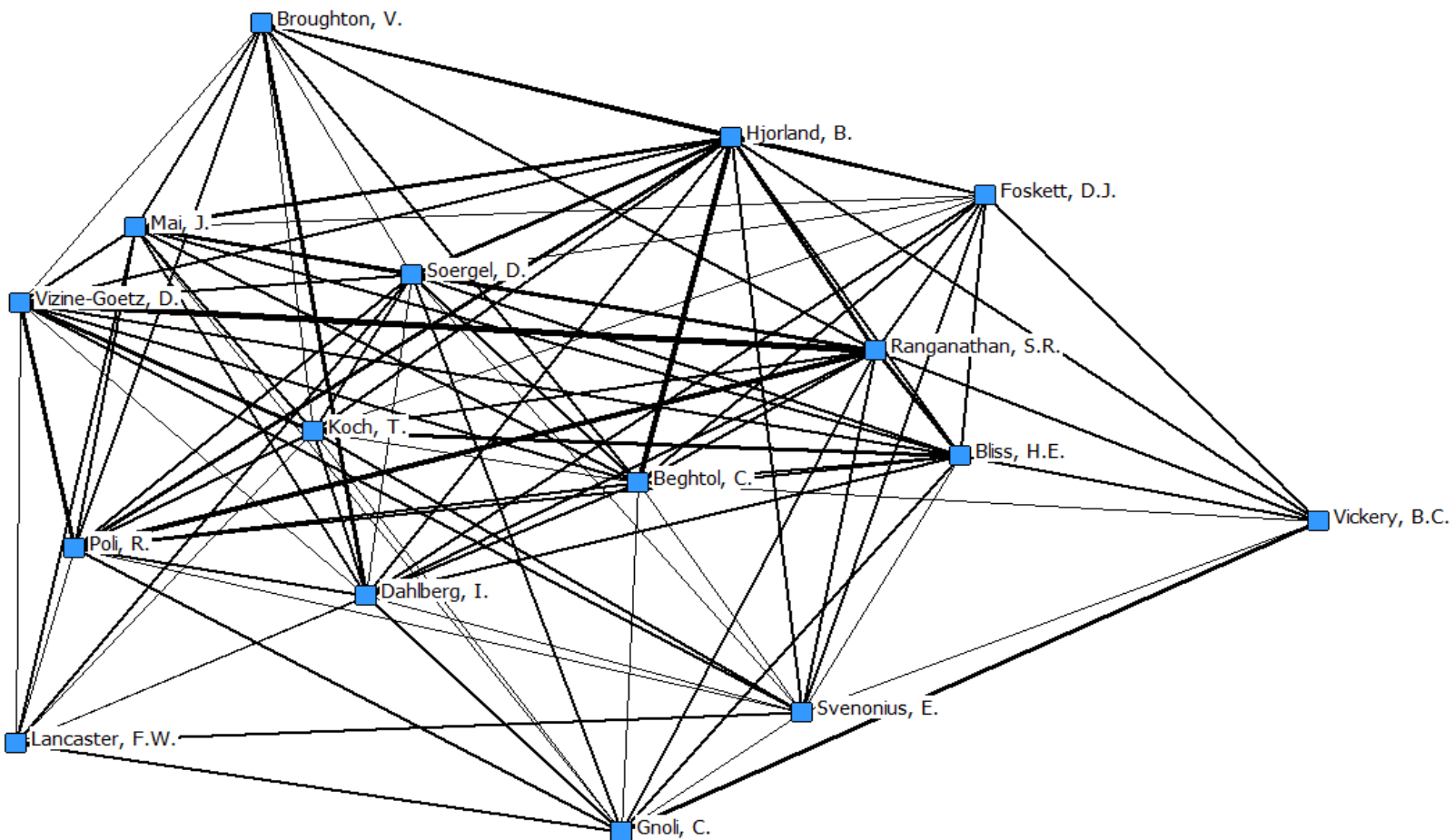
Results - stage 1

- Researchers and number of articles in which they were cited for the period 2004-2008.

Most cited authors	Number of articles in which the author was cited
Hjørland, B.	10
Ranganathan, S.R.	10
Broughton, V.	8
Koch, T.	8
Soergel, D.	8
Beghtol, C.	7
Dahlberg, I.	6
Mai, J.-E.	6
Poli, R.	6
Vizine-Goetz, D.	6
Bliss, H.E.	5
Foskett, D.J.	5
Gnoli, C.	5
Lancaster, F.W.	5
Svenonius, E.	5
Vickery, B.C.	5

Results - stage 1

- Network of co-citations of the 16 authors for the period 2004-2008.



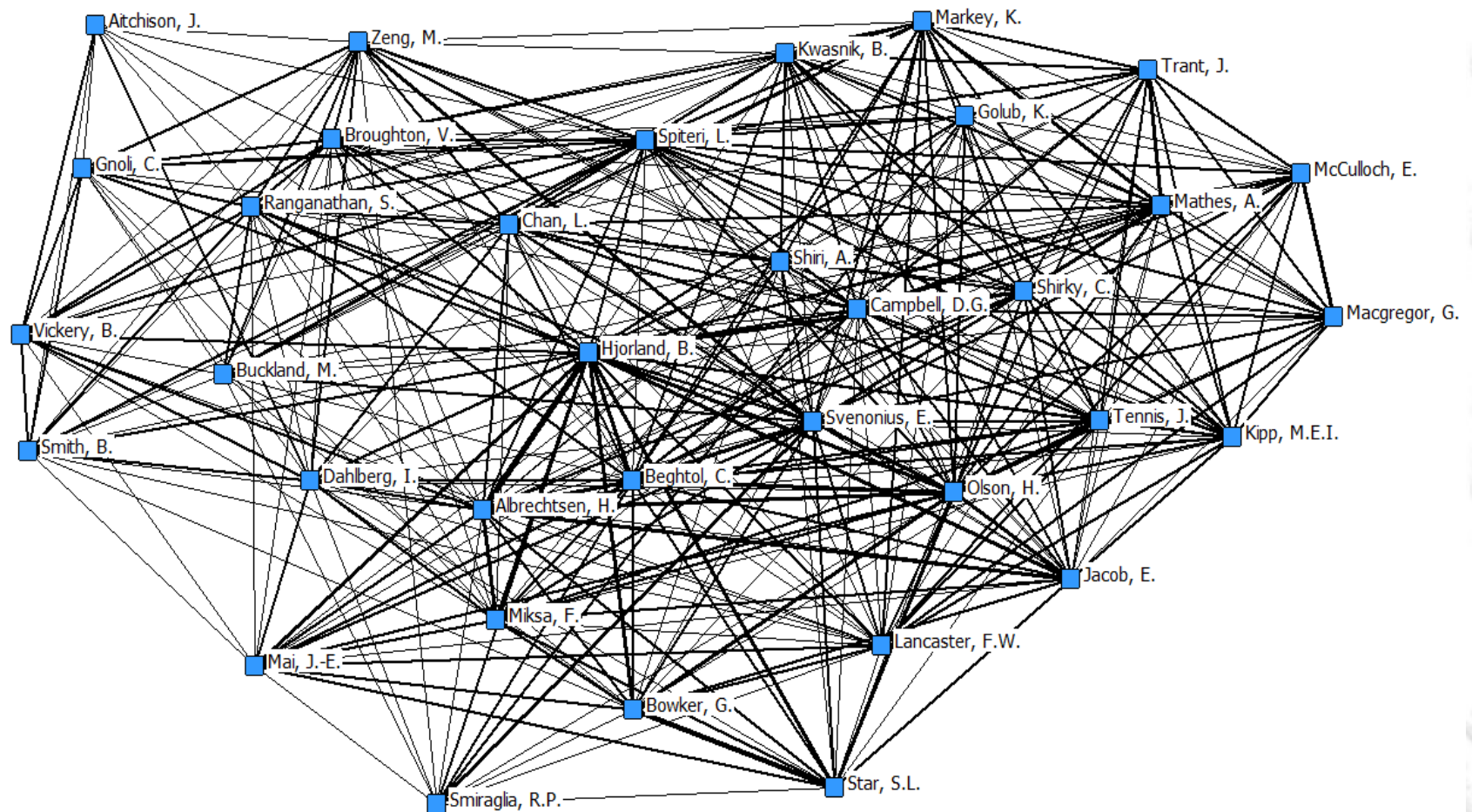
Results - stage 1

- Researchers and number of articles in which they were cited for the period 2009-2013.

Most cited authors	Number of articles in which the author was cited
Hjørland, B.	19
Svenonius, E.	13
Albrechtsen, H.	11
Olson, H.	10
Beghtol, C.	9
Bowker, G.	8
Broughton, V.	8
Chan, L.M.	8
Lancaster, F.W.	8
Zeng, M.	8
Jacob, E.	7
Shirky, C.	7
Spiteri, L.	7
McCulloch, E.	7
Ranganathan, S.	7

Results - stage 1

- Network of co-citations of the 5 authors for the period 2009-2013.



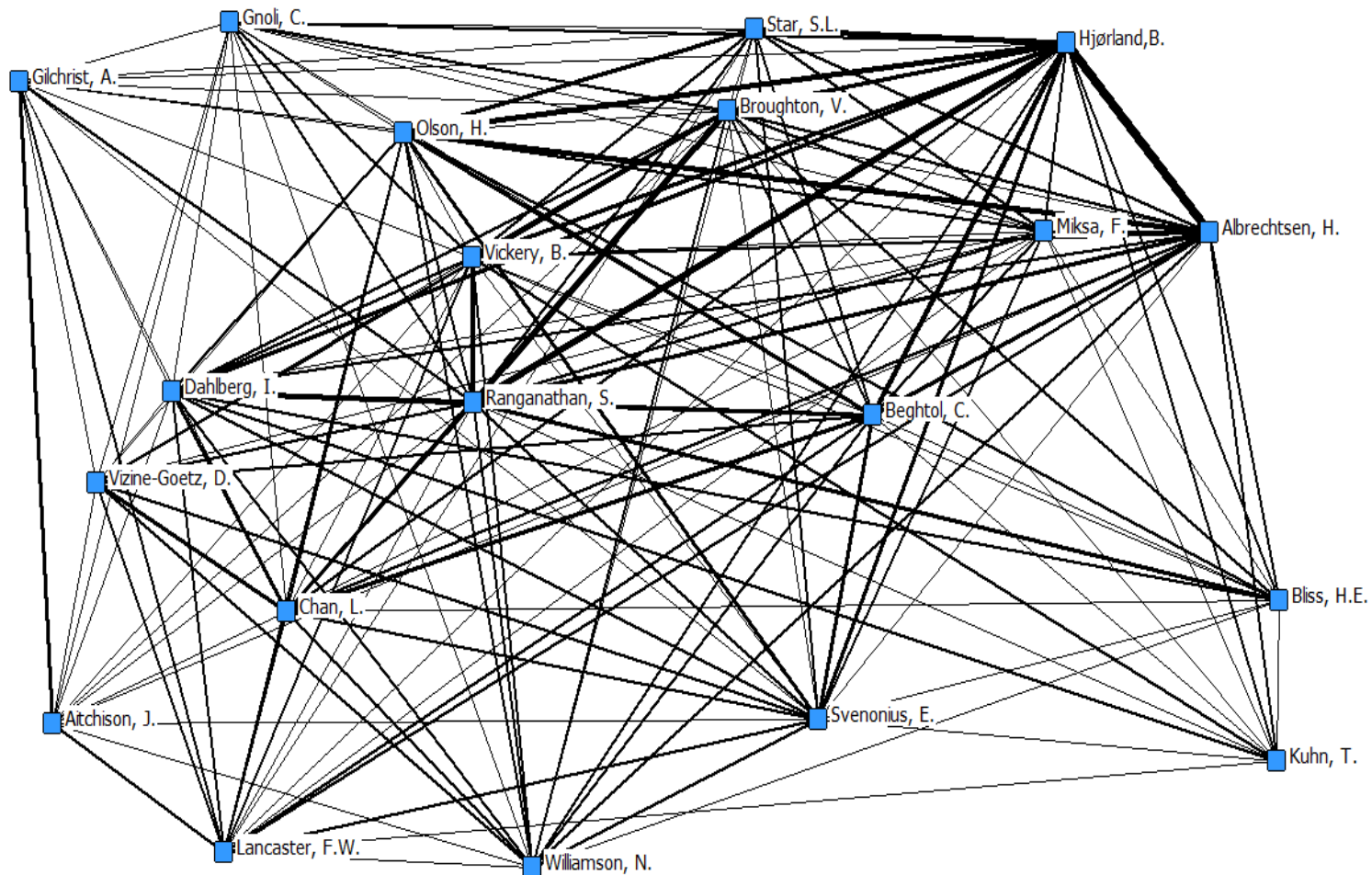
Results - stage 1

- Researchers and number of articles in which they were cited for the whole period (1994-2013).

Researchers	Number of articles in which the author was cited				
	1994-1998	1999-2003	2004-2008	2009-2013	Total
Hjørland, B.	1	10	10	19	40
Ranganathan, S.R.	10	6	10	7	33
Dahlberg, I.	18	1	6	6	31
Albrechtsen, H.	3	9	3	11	26
Lancaster, F.W.	8	2	5	8	23
Svenonius, E.	2	2	5	13	22
Beghtol, C.	2	3	7	9	21
Chan, L.	4	5	4	8	21
Olson, H.	2	6	2	10	20
Broughton, V.	2	1	8	8	19
Vickery, B.	4	4	5	6	19
Vizine-Goetz, D.	0	4	6	4	14
Kuhn, T.	8	1	2	2	13
Gilchrist, A.	3	1	4	4	12
Star, S.L.	0	4	2	6	12
Miksa, F.	1	3	1	6	12
Williamson, N.	1	5	2	3	11
Gnoli, C.	0	0	5	6	11
Bliss, H.E.	3	2	5	1	11
Aitchison, J.	3	1	2	5	11

Results - stage 1

- Network of co-citations of the 20 authors for the whole period 1994-2013.



Results - stage 2

- 578 articles with an average of 2.6 KO citations per paper in 160 different journals - Journals and number of articles that cite the KO articles.

Journals	Articles	%
Knowledge Organization	137	23,7
Journal of Documentation	52	9,0
JASIST	40	6,9
Cataloging and Classification Quarterly	18	3,1
Information Research	16	2,7
Scire	13	2,2
Journal of Information Science	10	1,7
Information Processing and Management	7	1,2
Journal of Educational Media and Library Science	7	1,2
Journal of the Association for Information Science and Technology	7	1,2
Library and Information Science Research	7	1,2
Library Quarterly	7	1,2
Library Trends	7	1,2
ARIST	6	1,0
Journal of Library Metadata	6	1,0
Library and Information Science	6	1,0
Arqueologia Mexicana	5	0,8
DESIDOC Journal of Library and Information Technology	5	0,8
Information-Wissenschaft und Praxis	5	0,8
Lecture Notes in Computer Science	5	0,8
Perspectivas em Ciencia da Informacao	5	0,8
Profesional de la Informacion	5	0,8
Scientometrics	5	0,8

Results - stage 2

- Most citing authors from all journals (including KO)

Authors	Number of citations
Hjørland, B.	30
Szostak, R.	14
Lopez-Huertas, M.J.	12
Smiraglia, R.	11
Gnoli, C.	10
Martínez-Ávila, D.	10
Chaudhry, A.S.	9
Olson, H.A.	9
Chen, S.Y.	8
Khoo, C.S.G.	8
Wang, Z.	8
Zins, C.	8
Friedman, A.	7
Park, J.-R.	7
Robinson, L.	7
Albrechtsen, H.	6
Bernard, A.	6
Chen, Y.-N.	6
Ke, H.-R.	6
Andersen, J.	5
Markey, K.	5
San Segundo, R.	5
Satija, M.P.	5
Tennis, J.T.	5

Results - stage 2

- Most citing authors from journals other than KO

Authors	Number of citations
Hjørland, B.	23
Smiraglia, R.	10
Chaudhry, A.S.	9
Olson, H.A.	8
Friedman, A.	7
Khoo, C.S.G.	7
Robinson, L.	7
Wang, Z.	7
Chen, Y.-N.	6
Ke, H.-R.	6
Andersen, J.	5
Markey, K.	5
Park, J.-R.	5
Szostak, R.	5
Drabinski, E.	4
Karamuftuoglu, M.	4
van den Heuvel, C.	4

Conclusions

- The KO journal, through its epistemic communities, presents two main research trends that interact with each other
 - theoretical foundations of knowledge organization (theory of classification, concept theory, etc.);
 - a social-cognitive approach linked to cultural studies.
- These research trends reaffirm the complex and interconnected nature of the KO field while showing the way to new interdisciplinary research perspectives in the future

Conclusions

- The KO domain and the epistemic communities progress in a dynamic and well-balanced way with a strong and widespread impact on the LIS scientific context as a whole.
 - number of citations generally growing
 - new authors slowly emerging for each period
- This might also be a sign of a growing impact on society and scholarship
 - citations in other journals with even greater impact factors.
 - Not inward looking but causing effective impact on the LIS scientific literature, making a difference.

Further research

- h index of the researchers
- the specific characteristics of the citing journals and differences with KO
 - regarding aspects such as the impact factor of the journals and the citations received by the citing articles from other journals
- Correspondence between the KO literature and the way KO is practiced.
- The real impact of specific scholarly KO forums on society at large.

References

- Hjørland, Birger. 2002. Domain analysis in Information science: eleven approaches-traditional as well as innovative. *Journal of documentation*, 58(4), 422-462.
- Hjørland, Birger, and Albrechtsen, Hanne. 1995. Toward a new horizon in information science: domain-analysis. *Journal of the American Society for Information Science*, 46(6), 400-425.
- Mai, Jens-Erik. 2005. Analysis in indexing: document and domain centered approaches. *Information Processing and Management*, 41(3), 599-611.
- Smiraglia, Richard P. 2011. Domain coherence within knowledge organization: people, interacting theoretically, across geopolitical and cultural boundaries. *In Exploring interactions of people, places and information, Proceedings of the 39th Annual CAIS/ACSI Conference*, University of New Brunswick, Fredericton, Canada, June 2-4, 2011.
- Tennis, Joseph. T. 2003. Two axes of domains for domain analysis. *Knowledge organization*, 30(3/4), 191-195.