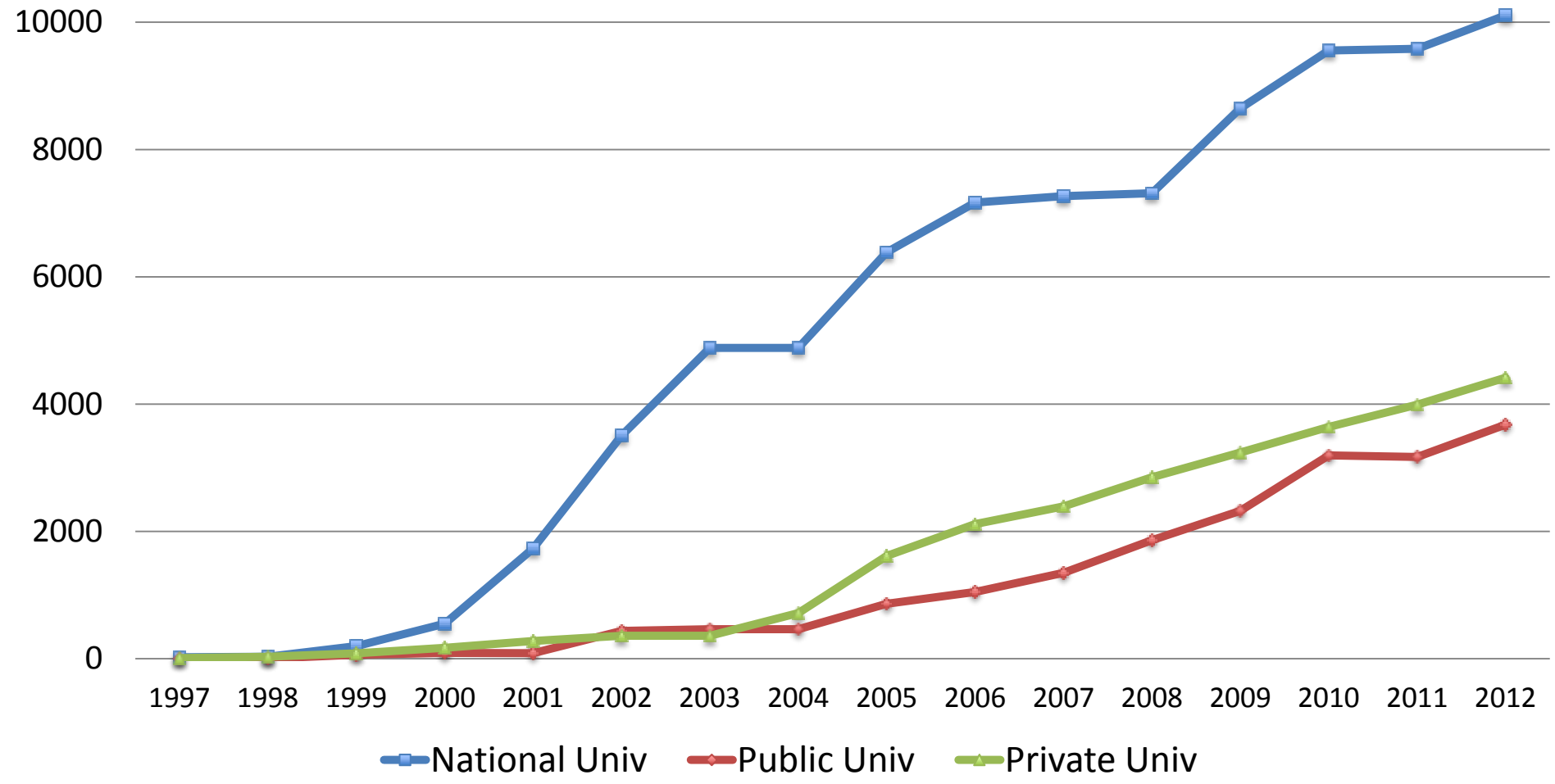
The Changes in Researchers' Expectations of Libraries and Publishers: Findings from SCREAL Survey

Yoshinori Sato
Tohoku Gakuin University
Japan

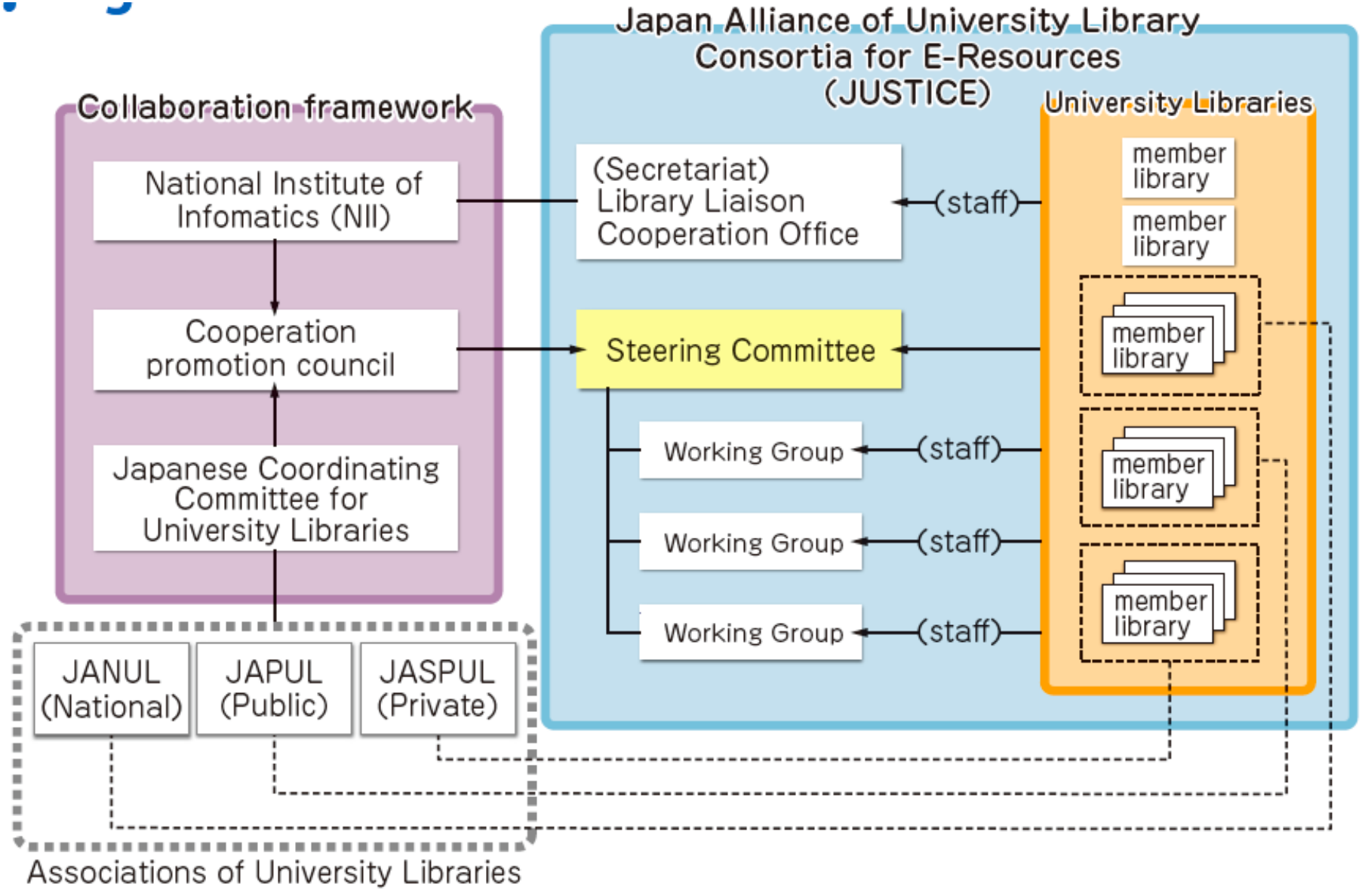
TOC

1. Progress of electronic journals in Japan
2. About SCREAL Survey
3. Overview of results of the past surveys for electronic journals usage in Japan
4. Analysis of comments & opinions
   a) Purpose of “Text Analysis”
   b) Methods
5. Results

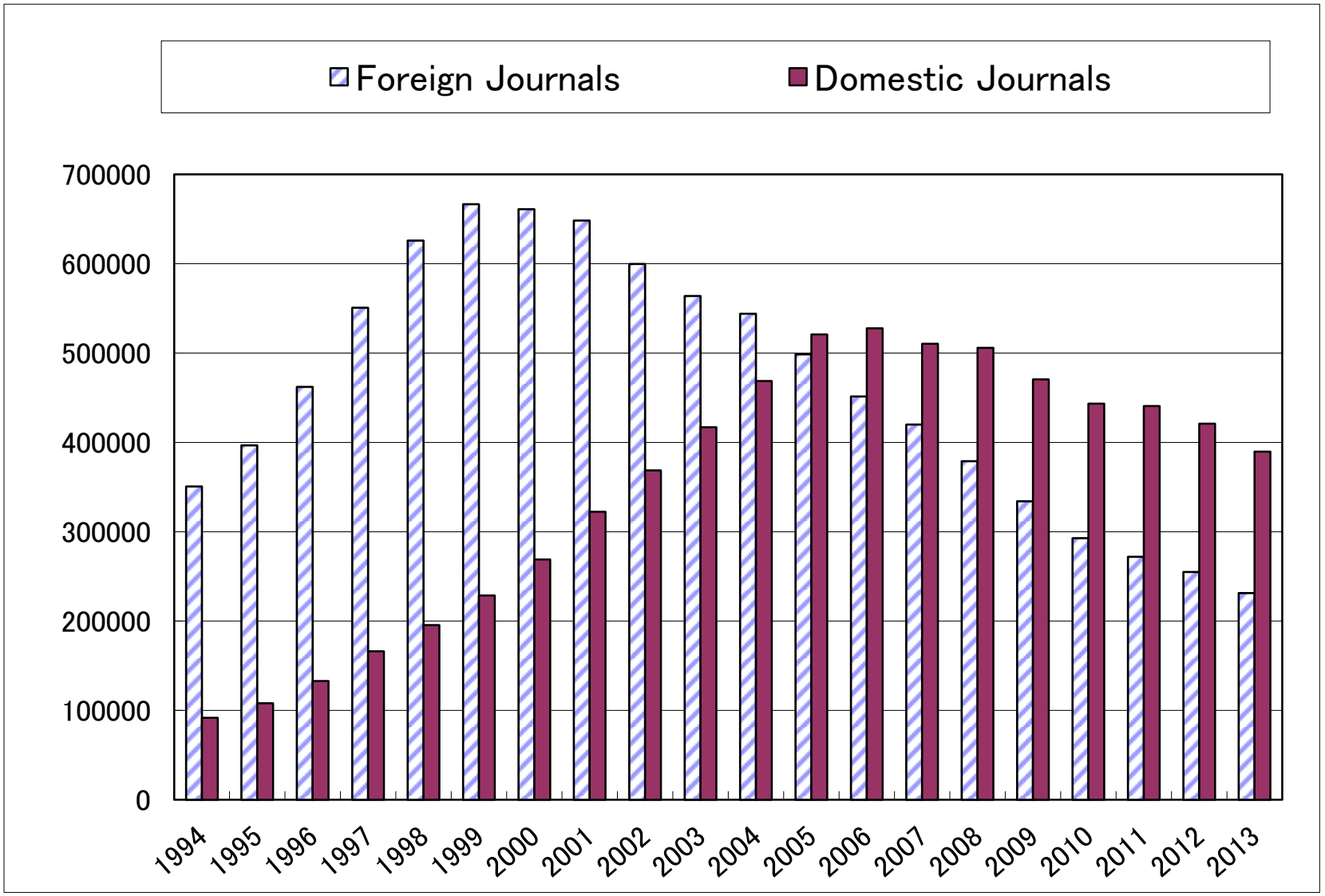
Average number of Electronic Journal titles (1997 - 2012)



JUSTICE: academic library consortium of Japan



Number of Filled Requests of NACSIS-ILL (Photocopies)



About the SCREAL survey

- SCREAL : The Standing Committee for Research on Academic Libraries
  - Japanese researchers group interested in changes in Scholarly Communication
  - Founded in 2007
  - Members:

    Hiroshi Itsumura, University of Tsukuba; Keiko Kurata, Keio University; Hiroya Takeuchi, Chiba University; Kenji Koyama, Nihon University; Mine Shinji, Mie University; Syun Tutiya, NIAD-UE; Sho Sato, Doshisha University; Yoshinori Sato, Tohoku Gakuin University

About the SCREAL survey

- 2007 survey
  - With 25 institutions
  - 2,892 valid responses
- 2011 survey
  - With 45 institutions
  - 3,922 valid responses
- 2014 survey - planned
  - From Nov 10 to Dec 20, 2014
  - With 45 institutions

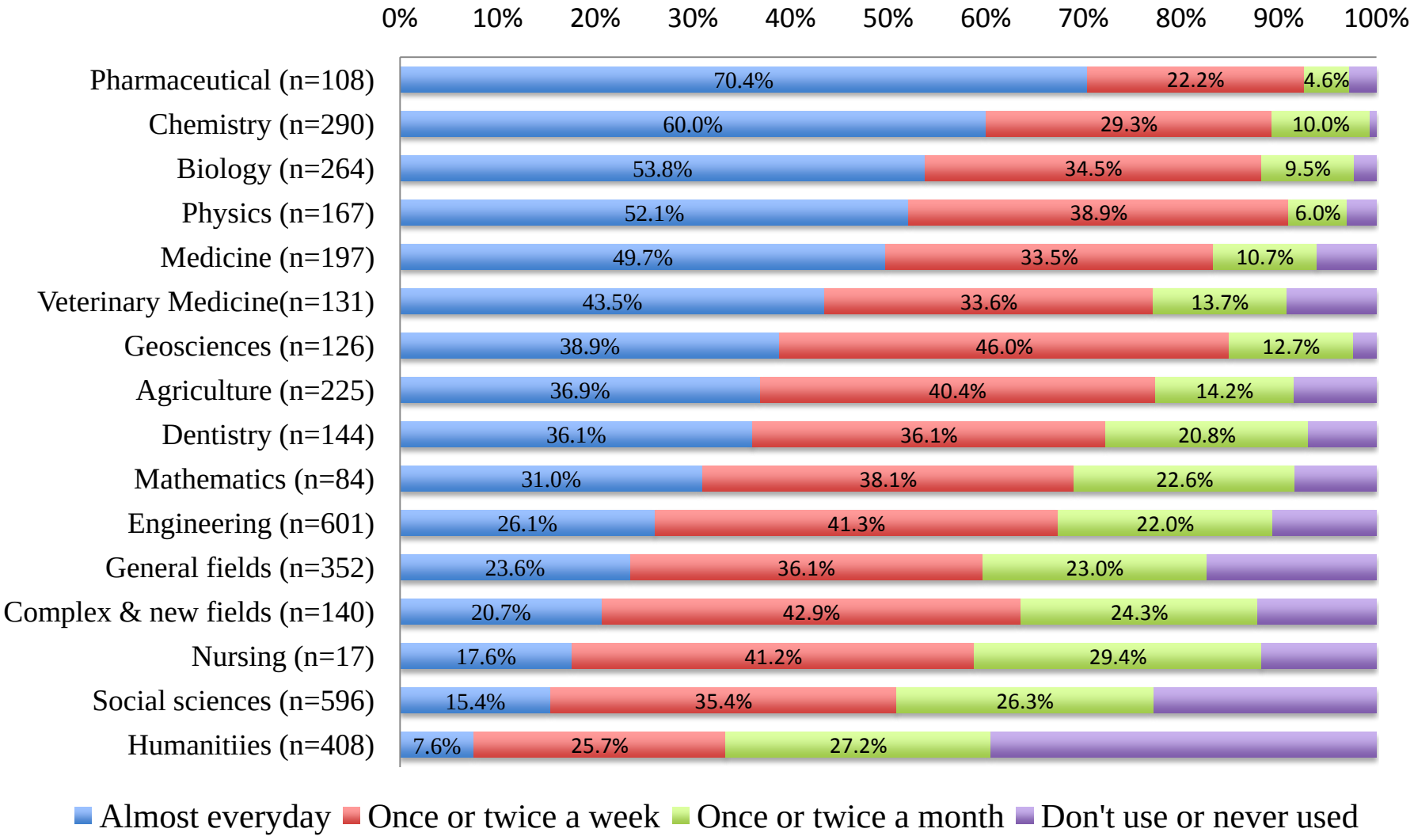
About the SCREAL survey

- Questionnaire items
  A) EJ Usage: items inherited from JANUL survey (2001, 2003) and PULC survey (2004)
  B) "Last Reading": items from surveys by Tenopir & King
- Online questionnaire
  - Survey webpages are installed on Qualtrics.com
  - Japanese version and English version

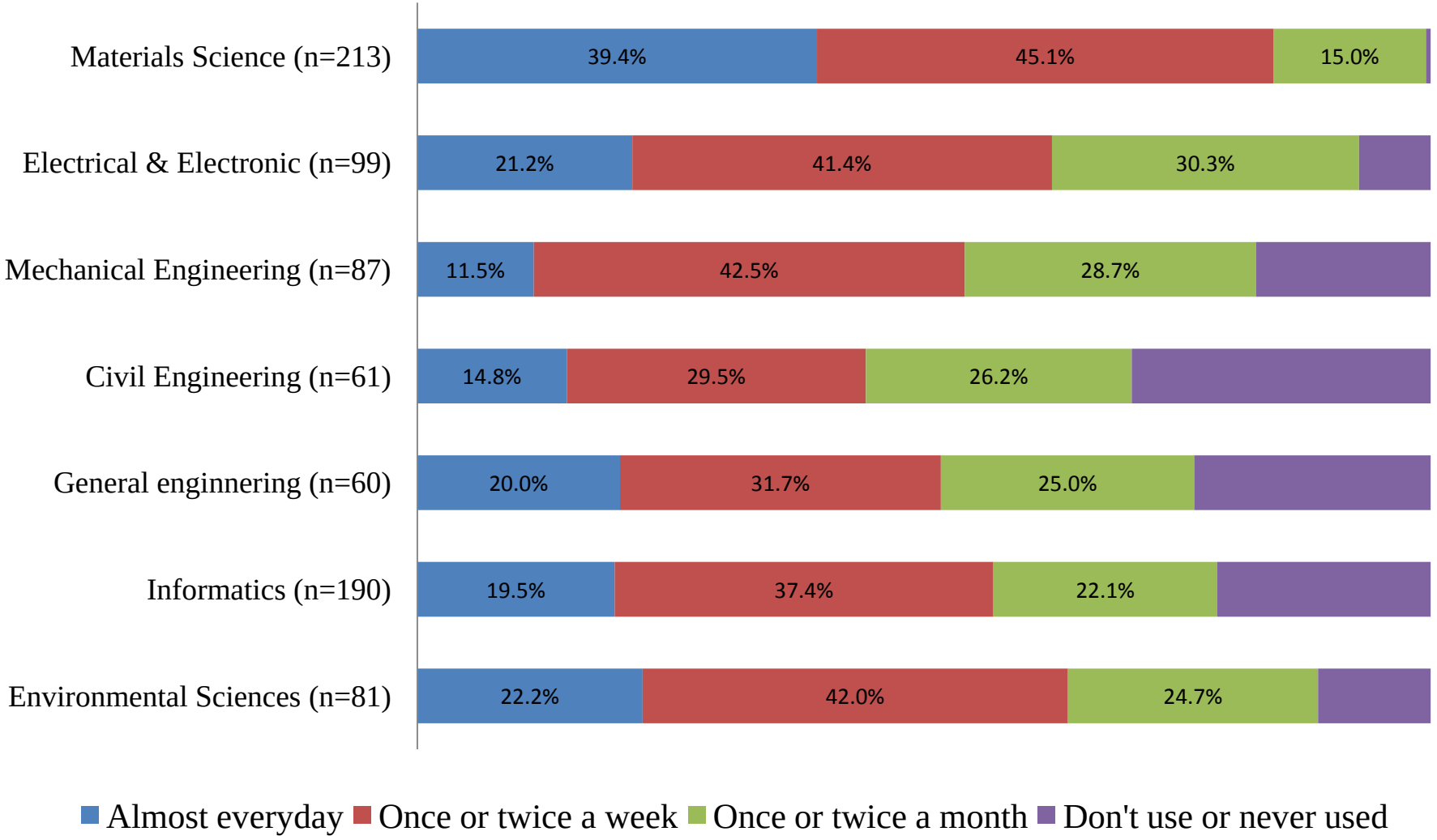
Overview of results of the past surveys

1. Frequency of EJ use by the discipline in 2011
2. Changes in EJ usage from 2001 to 2011
3. Usage rate of international documents and domestic documents
4. Changes in researchers' attitudes to "printed journals"
5. Changes in reading: re-reading and reading on PC screen

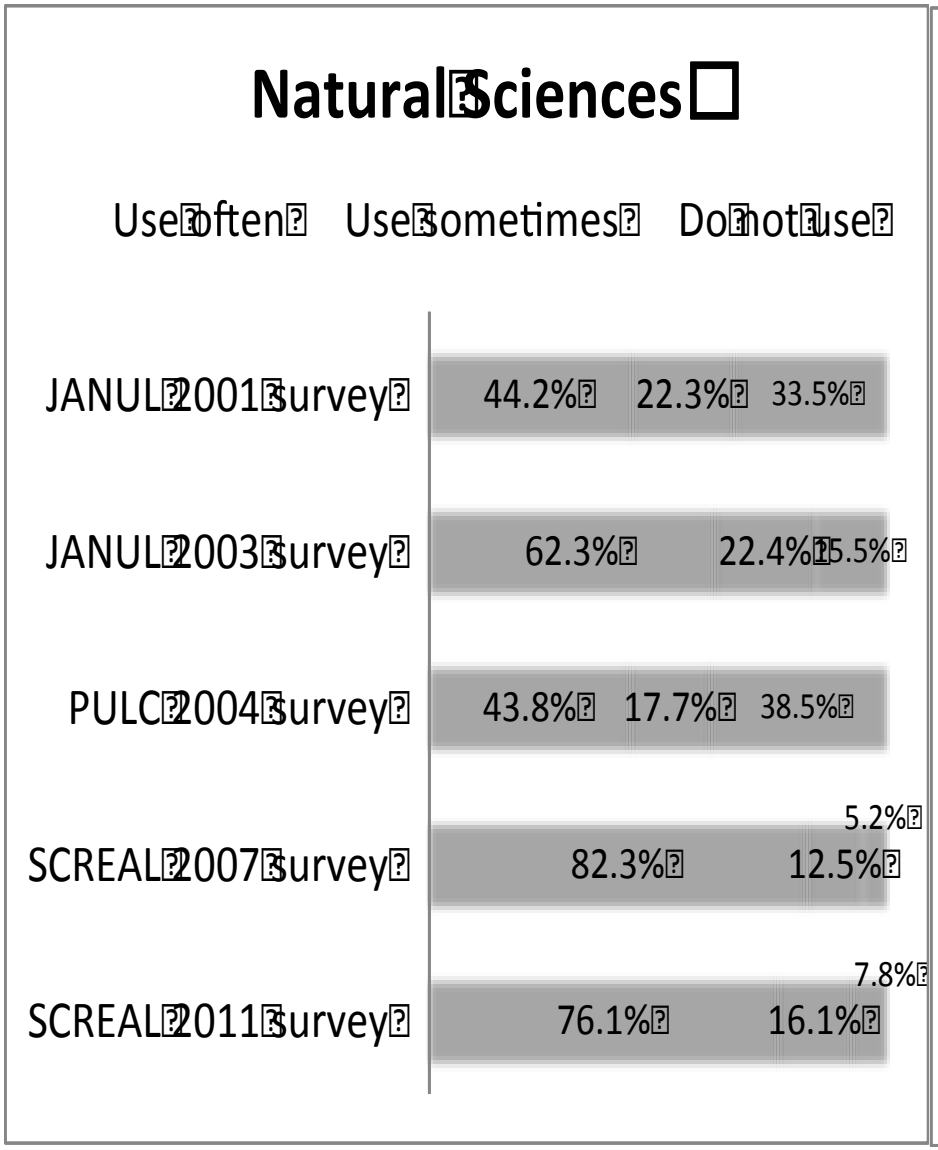
Frequency of EJ use by the discipline in 2011

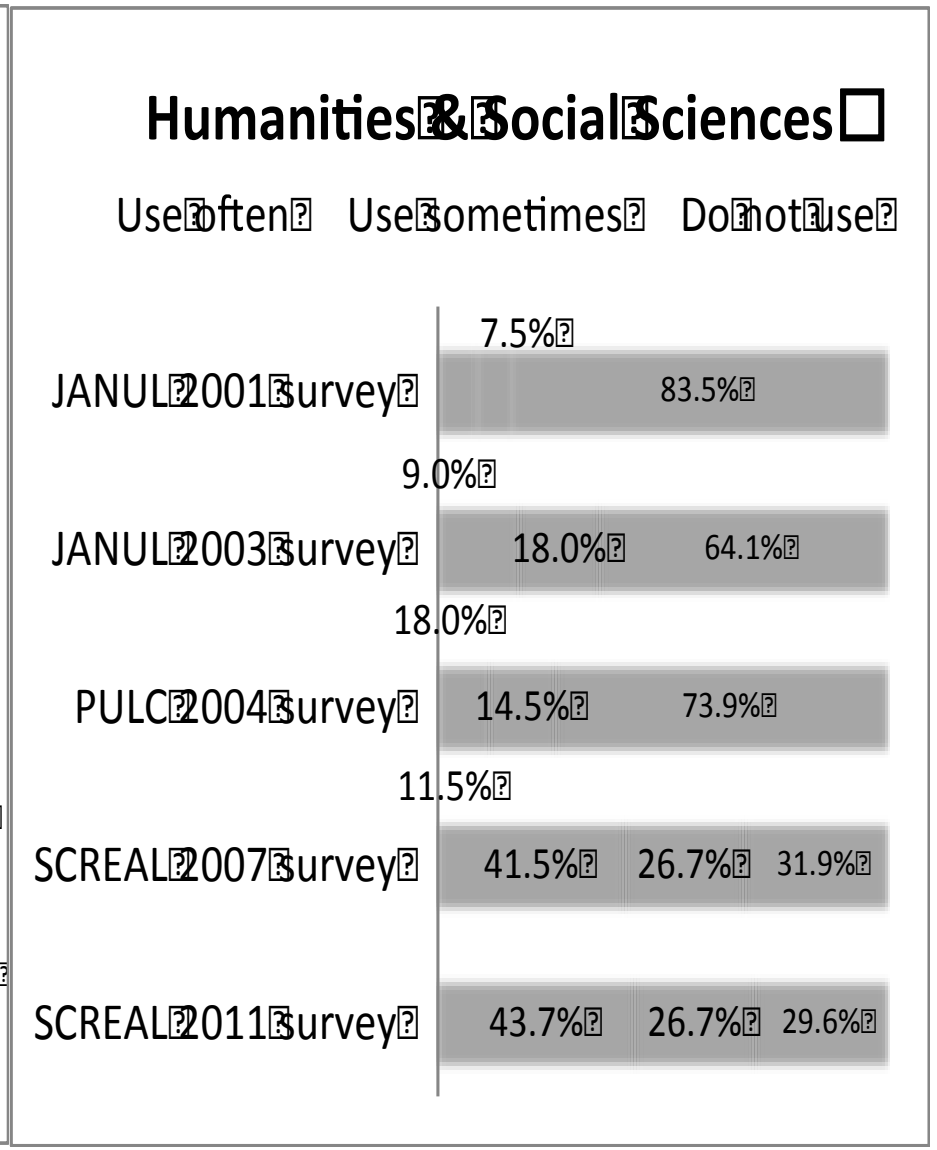


Frequency of EJ use by the discipline in 2011



Change in e-journal usage in past 5 surveys





Comparison of Documents Used: International vs Domestic

- 2 user groups: based on respondents' last-reading articles—international document users and domestic document users
- 50% in HUM and SOC SCI etc used domestic documents
  - tendency in EJ usage strongly reflected the disciplines' dependence on documents written in Japanese
- Identifiable difference in "Frequency of EJ use"; differences between NAT SCI and HUM/SOC SCI statistically significant by the 1% level
  - probably reflecting unique situation of Japan: domestic journals, though essential in some disciplines, have been very slow in being digitized

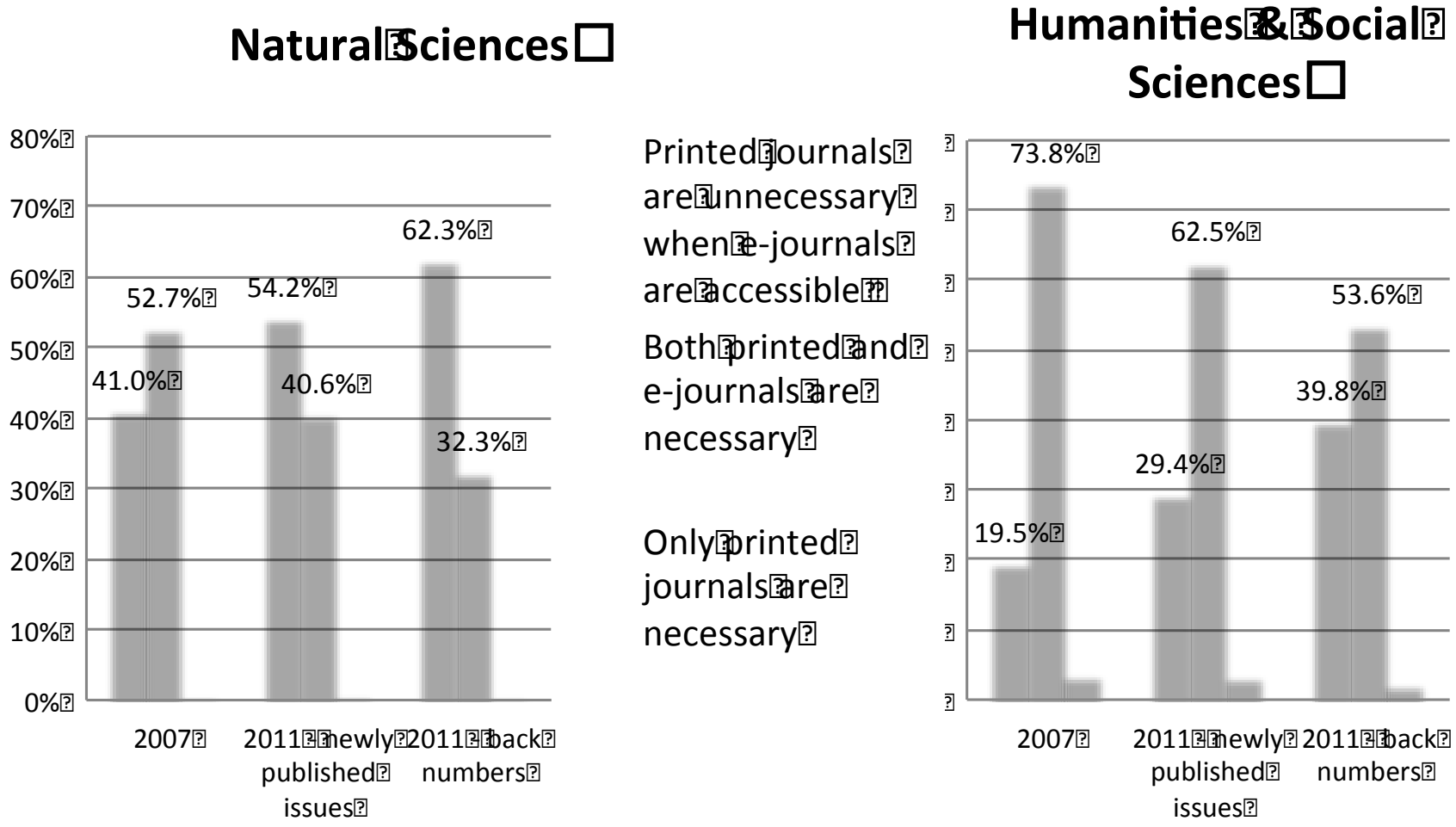
Proportion of use of international/domestic documents

	Users of International documents		Users of Domestic documents		Total
Medicine	181	90.5%	19	9.5%	200
Dentistry	111	81.6%	25	18.4%	136
Pharmaceutical	104	98.1%	2	1.9%	106
Agriculture	183	85.9%	30	14.1%	213
Zootechnical & Veterinary Medicine	123	94.6%	7	5.4%	130
Biology	254	96.9%	8	3.1%	262
Physics	161	97.6%	4	2.4%	165
Geosciences	118	92.2%	10	7.8%	128
Chemistry	294	99.3%	2	0.7%	296
Engineering	442	81.7%	99	18.3%	541
Mathematics	69	97.2%	2	2.8%	71
General fields	186	60.6%	121	39.4%	307
Complex & new fields	96	78.7%	26	21.3%	122
Social sciences	257	48.2%	276	51.8%	533
Humanities	143	43.3%	187	56.7%	330
Others	16	69.6%	7	30.4%	23
Total	2,738	76.8%	825	23.2%	3,563

Frequency of EJ use compared between users of international documents and those of domestic documents

		Almost everyday	Once or twice a week	Once or twice a month	Have used in the past	Don't use / Never heard	Total	Pearson's X2 test
Natural Sciences								
	Users of international documents	1,070	908	278	26	33	2,315	p-value = .000
		46.2%	39.2%	12.0%	1.1%	1.4%	100%	
	Users of domestic documents	33	115	118	61	38	365	
		9.0%	31.5%	32.3%	16.7%	10.4%	100%	
Humanities & Social Sciences								
	Users of international documents	81	177	94	26	20	398	p-value = .000
		20.4%	44.5%	23.6%	6.5%	5.0%	100%	
	Users of domestic documents	45	114	127	82	94	462	
		9.7%	24.7%	27.5%	17.7%	20.3%	100%	

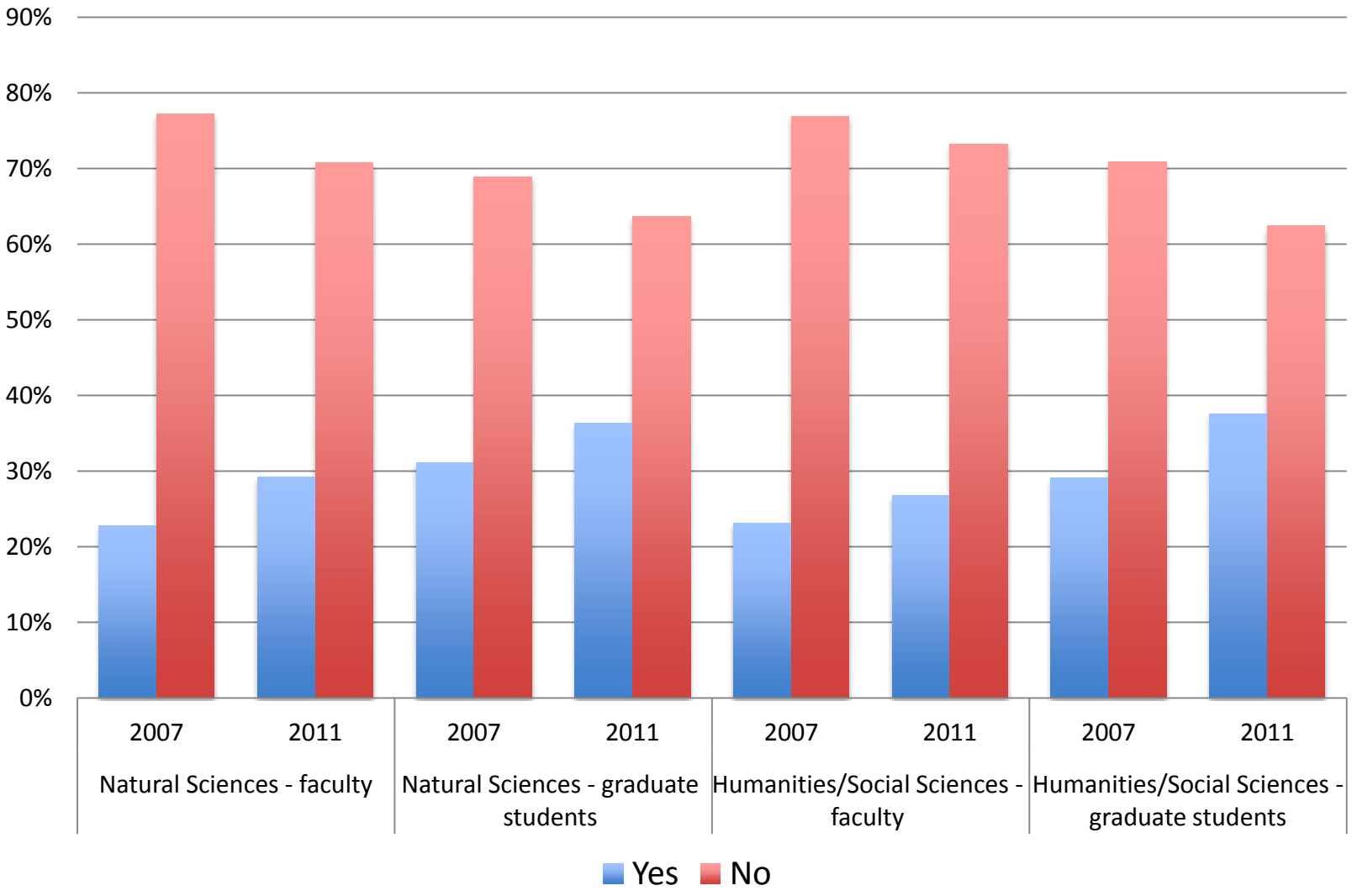
Changes in the necessity of printed journals



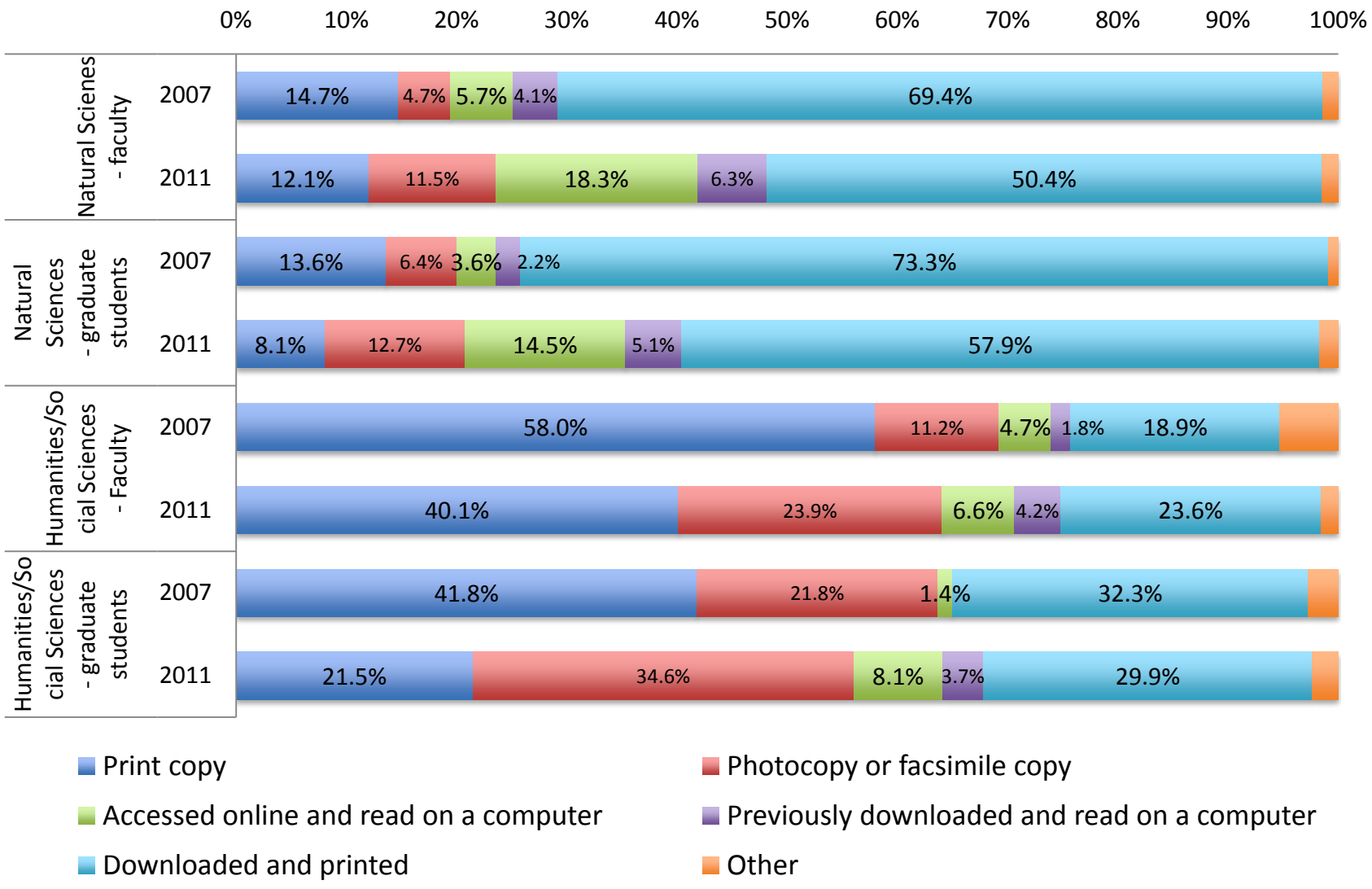
Perceptional changes in the need of printed journals

- Drastically larger ratio of those who think "printed journals are unnecessary when EJ are accessible"
- Large divergence between 2 user groups (international document users and domestic document users)
  - Only 34.9% (Sciences) and 19.3% (Humanities /Social Sciences) of domestic document users supported the item
- To be noted:
  - Greater preference for EJ-only environment even among domestic document users than in 2007

Rate of re-reading (2007 & 2011)



Format and source of last-read article (2007 & 2011)



Analysis of Comments & Opinions

- 3 free answer questions
  A) “What functions do you want in online journals? Please write in your opinion. “
  B) “Please write freely on issues and desires surrounding the use of academic information.”
  C) “Please write freely of your desire and/or opinion concerning the future services of libraries.”
- Software used
  – KH_coder: Free software package for Textual Analysis in which R and MySQL are incorporated

Purpose of Text Analysis

- To understand the findings above in users' context
- To grasp the relationship and configuration (overall layout) of opinions
- The objectives:
  - Why "re-reading" and "reading on PC screen" increased?
  - What happened to users in the background?

Related perspectives (in previous studies)

- Increase of Strategic Reading (Renear & Palmer, 2009)
  - "read strategically, working with many articles simultaneously to search, filter, scan, link, annotate, and analyze fragments of content"
- Number of downloads increased
  - More than doubled between FY2003/04 and FY2006/07 (RIN, 2009)
  - During the six months between March and August 2011, almost every single article (99.0 per cent) of those was downloaded at least once from the relevant publisher website (PEER Usage Study, 2012)
- Power browsing
  - "moving rapidly through the digital space picking information up on the move" (Nicholas et al., 2008)

Methods

1. Preliminary works

A) Words extracted by morphological analysis

– Because the Japanese language doesn't use spaces, words extraction is necessary

e. g. "文字列としての日本語の特徴" ---> "/文字列/としての/日本語/の/特徴/"

B) Normalization of words (like a thesaurus)

– Consolidating words that have the same meaning

e. g. "コンピュータ, コンピューター, PC, Personal Computers... " ==> PC

C) Checking the occurrence rate of words (including compound words)

– Extraction of frequently used words

– Preparation of "coding rule" file

Methods

2. Getting the picture of association of words and phrases

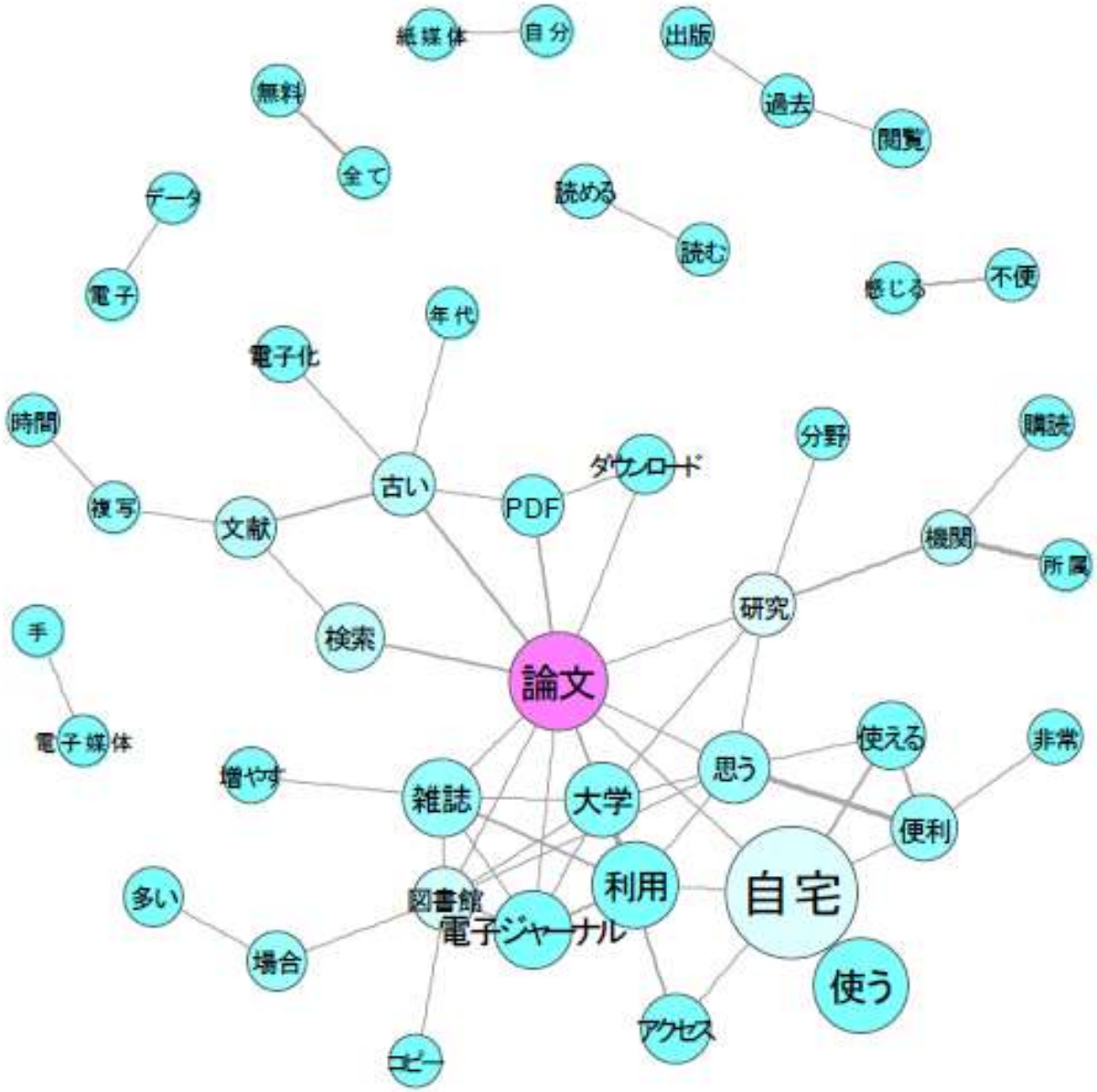
   --> co-occurrence network

   --> hierarchical cluster analysis

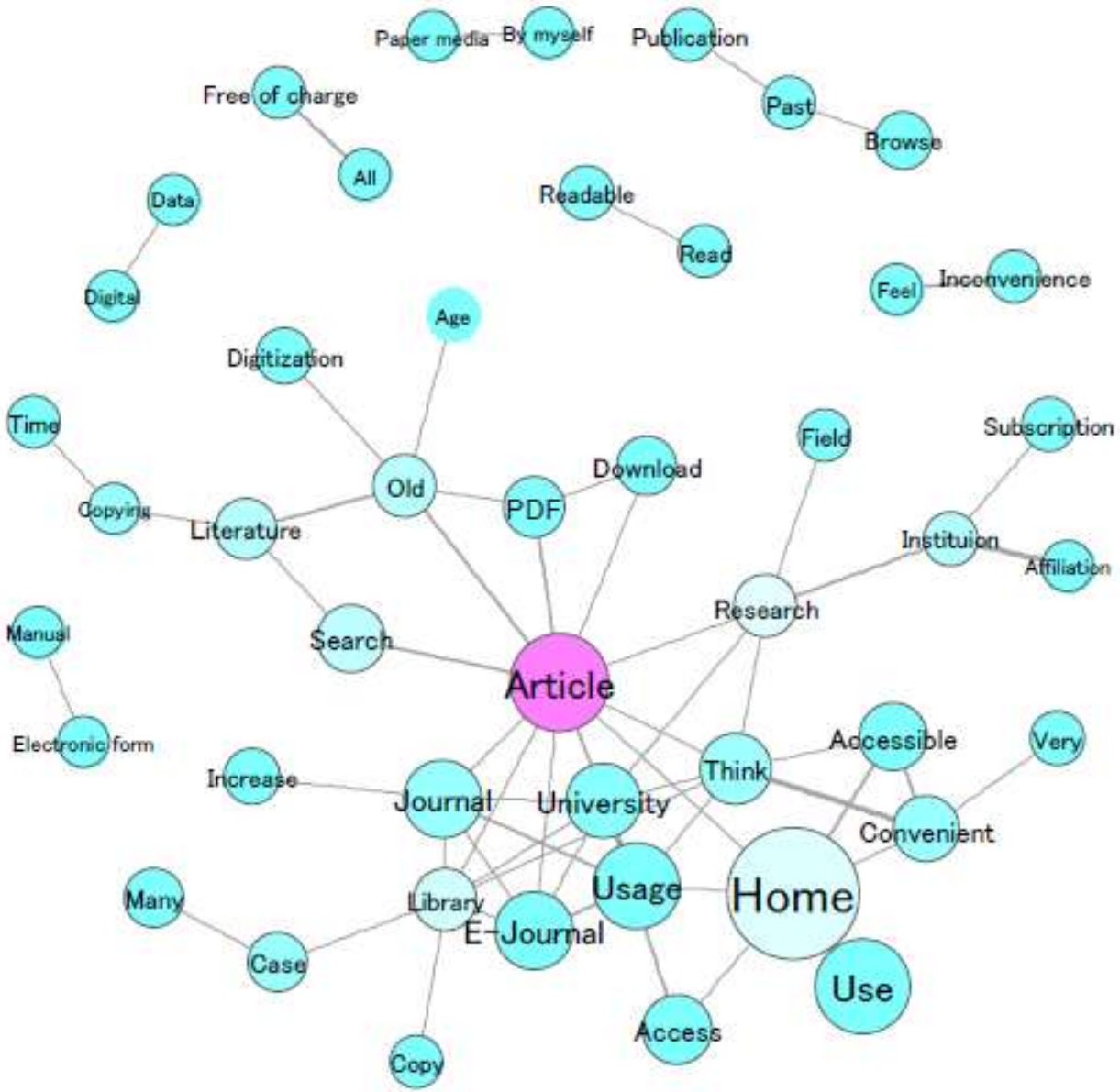
3. Understanding the context

   --> KWIC index

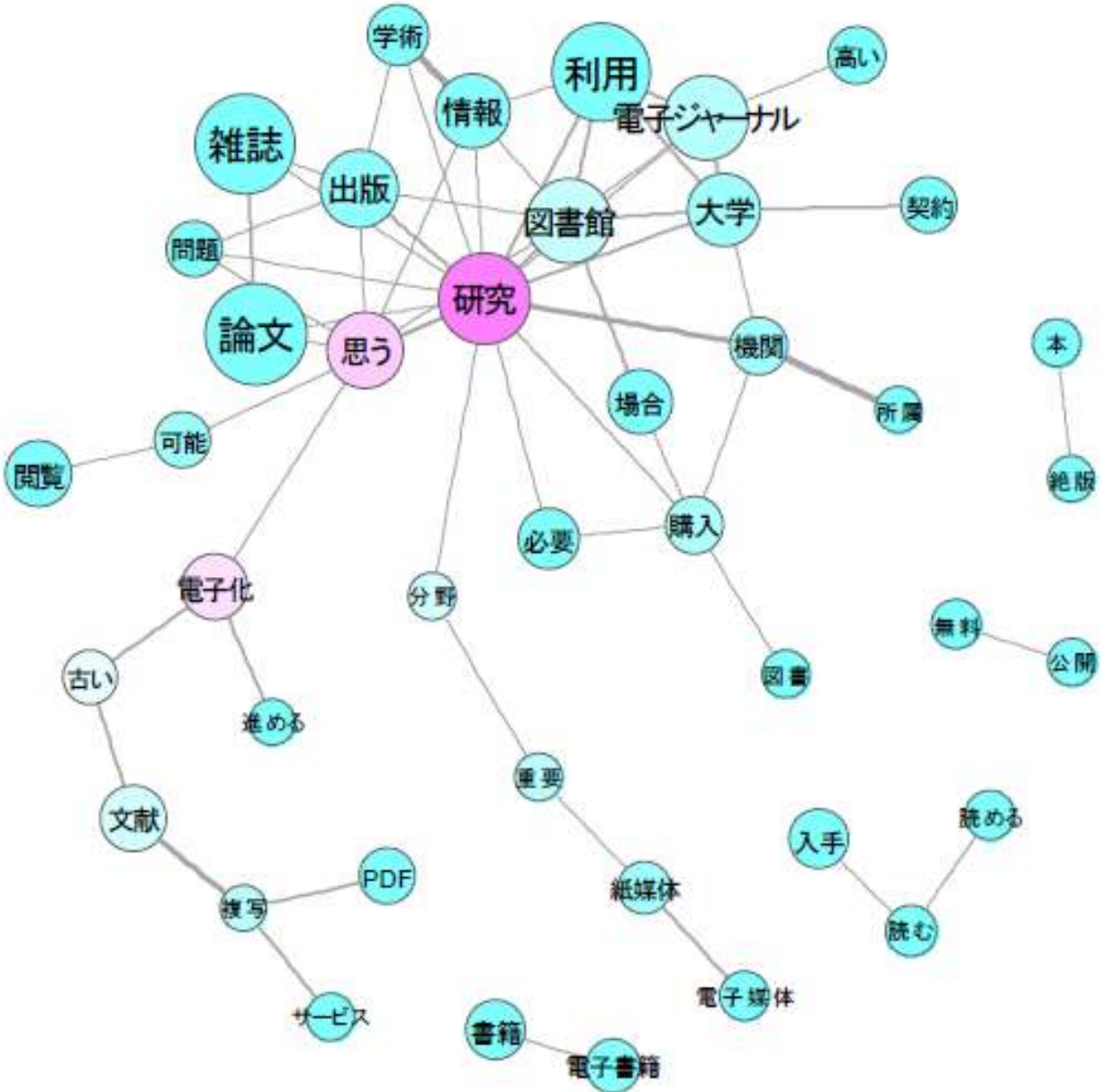
Co-occurrence network: Issues and desires surrounding the use E-journals, 2007



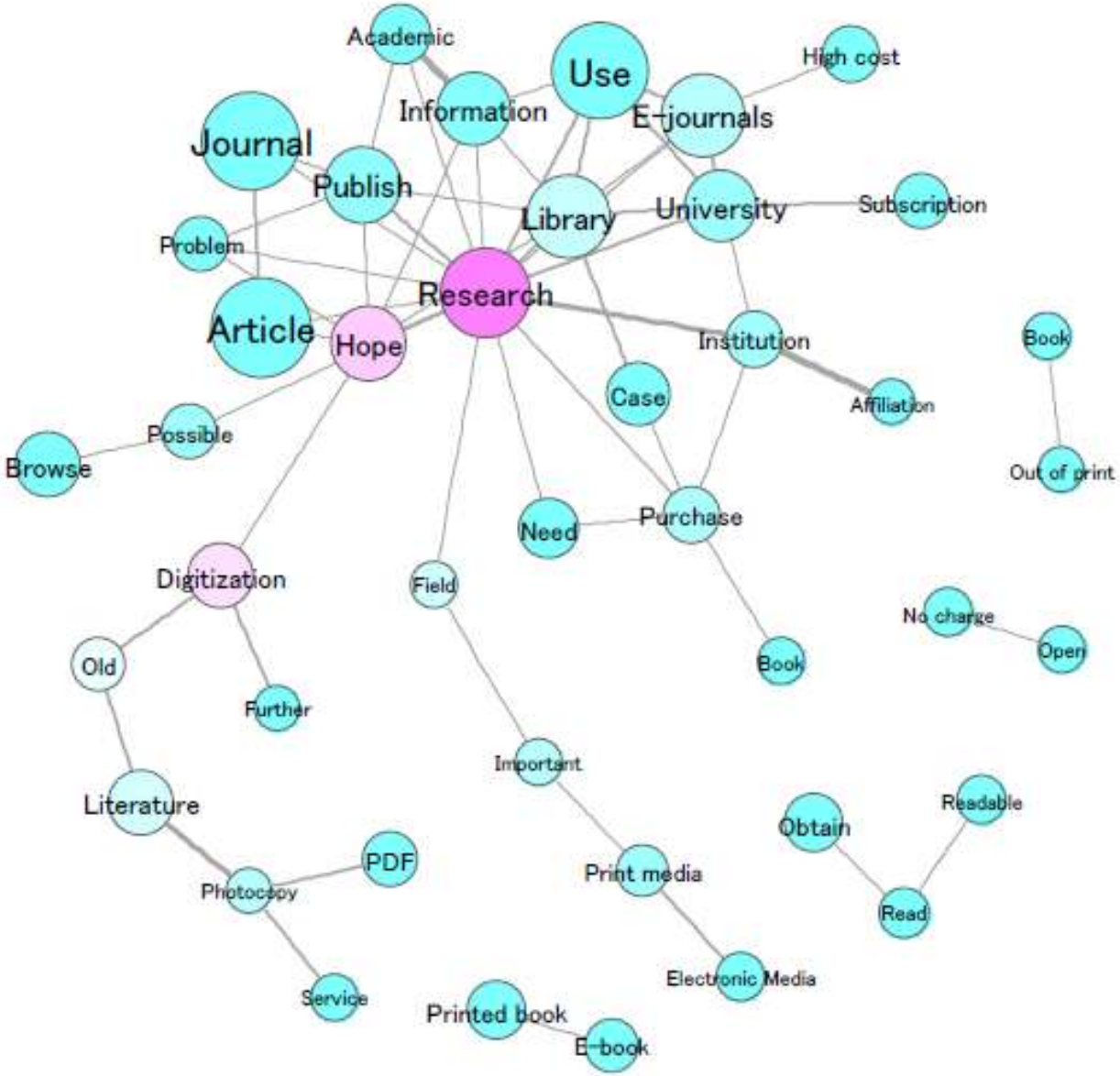
Co-occurrence network: Issues and desires surrounding the use E-journals, 2007



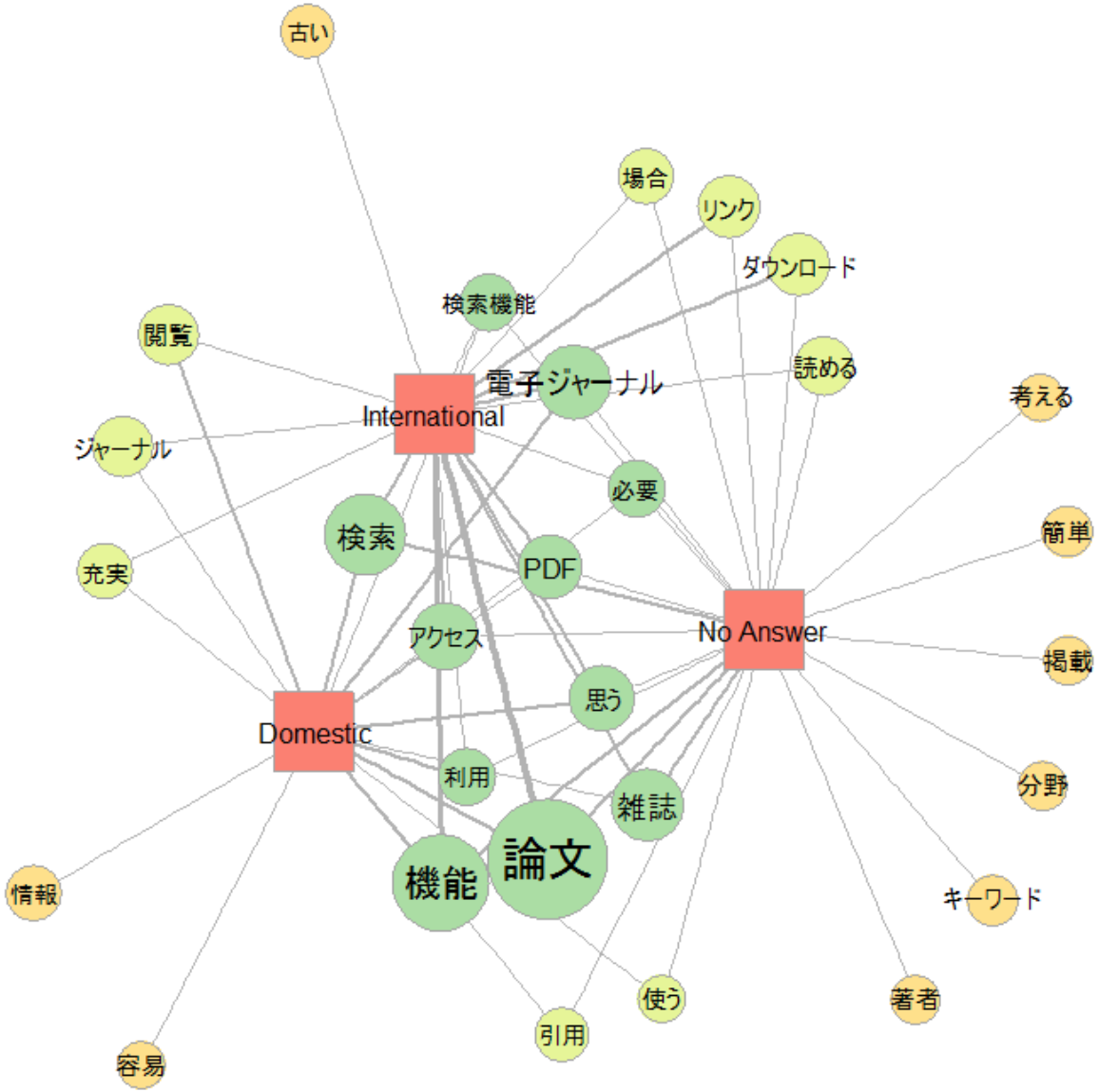
Co-occurrence network: Issues and desires surrounding the use E-journals, 2011



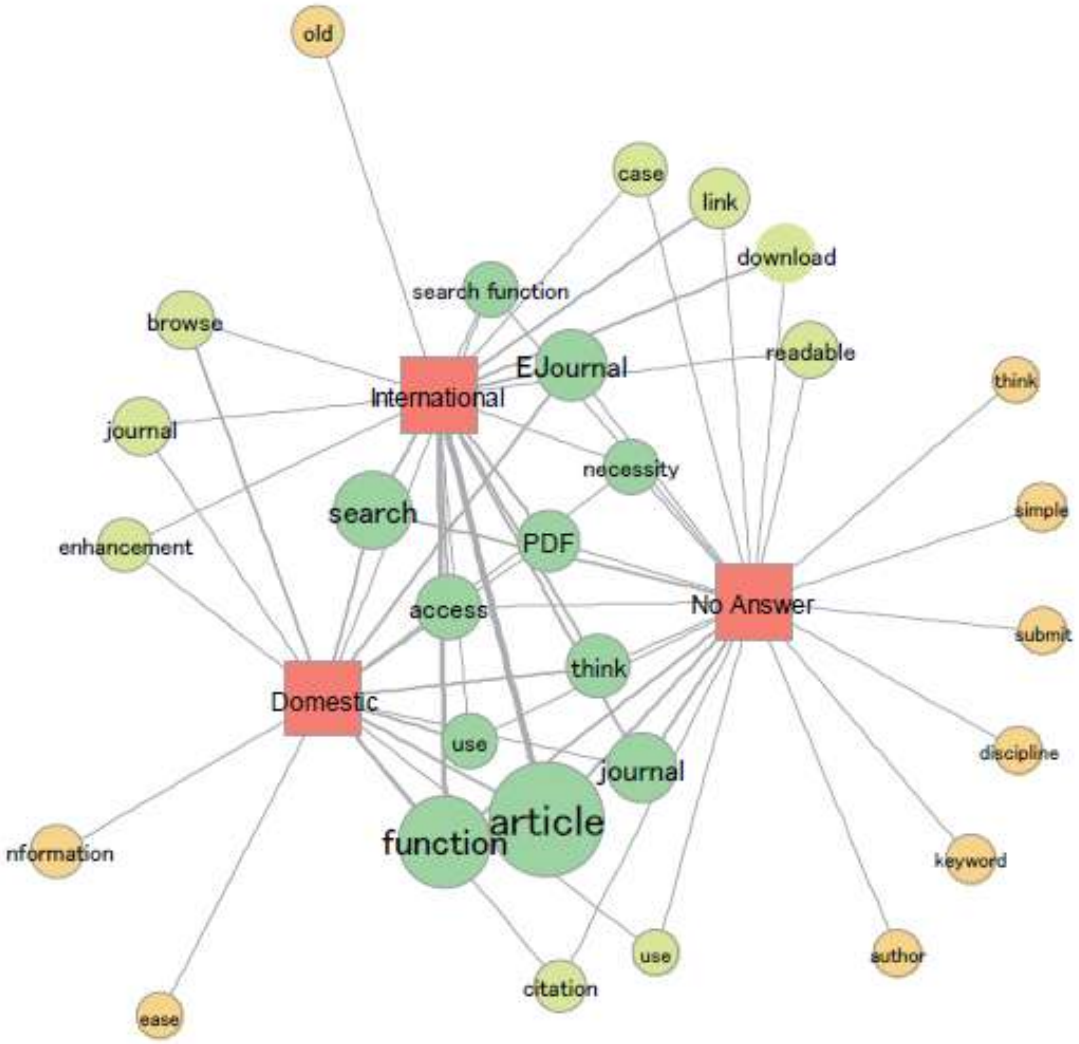
Co-occurrence network: Issues and desires surrounding the use E-journals, 2011



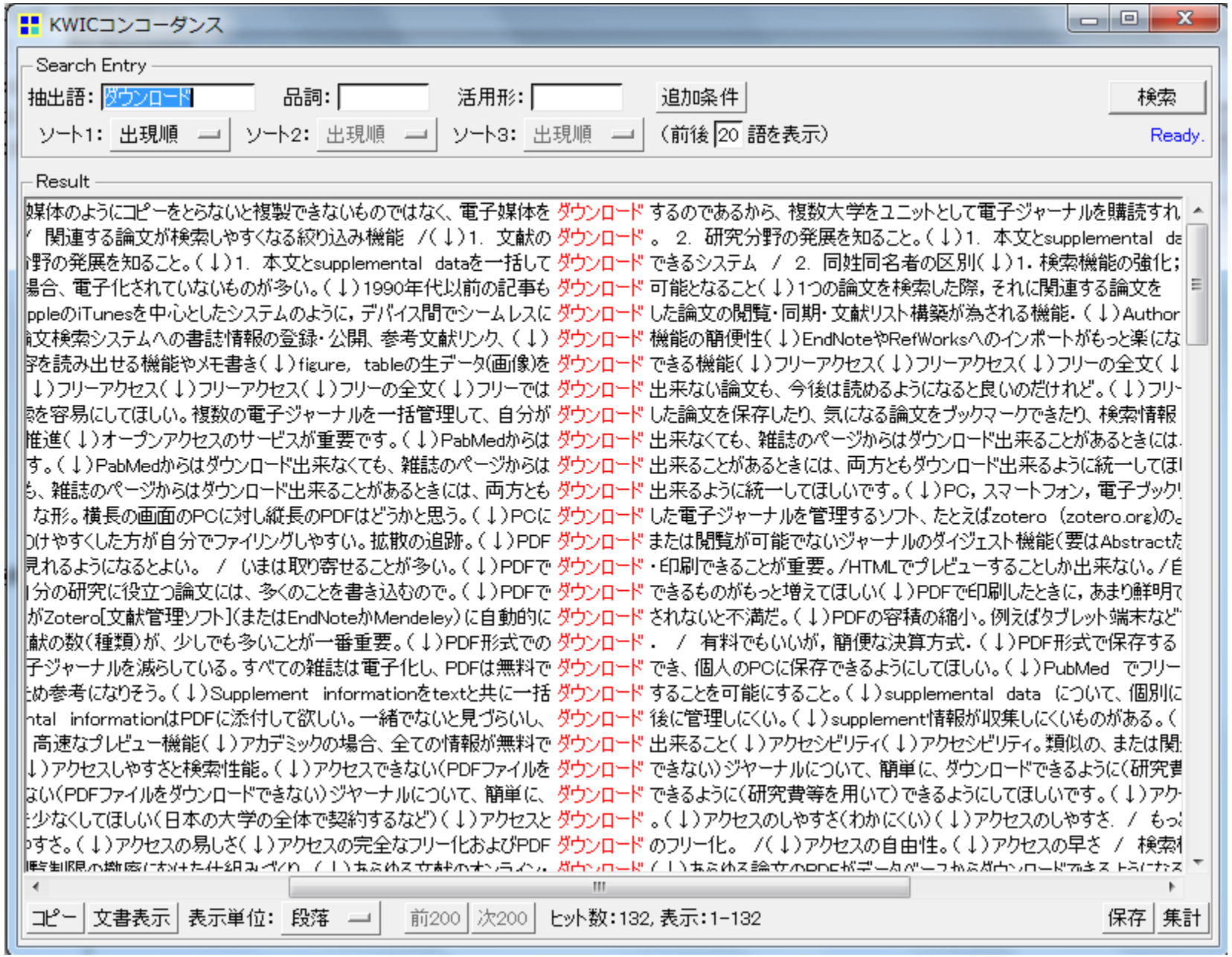
Co-occurrence network: Functions desired in E-journals, 2011



Co-occurrence network: Functions desired in E-journals, 2011



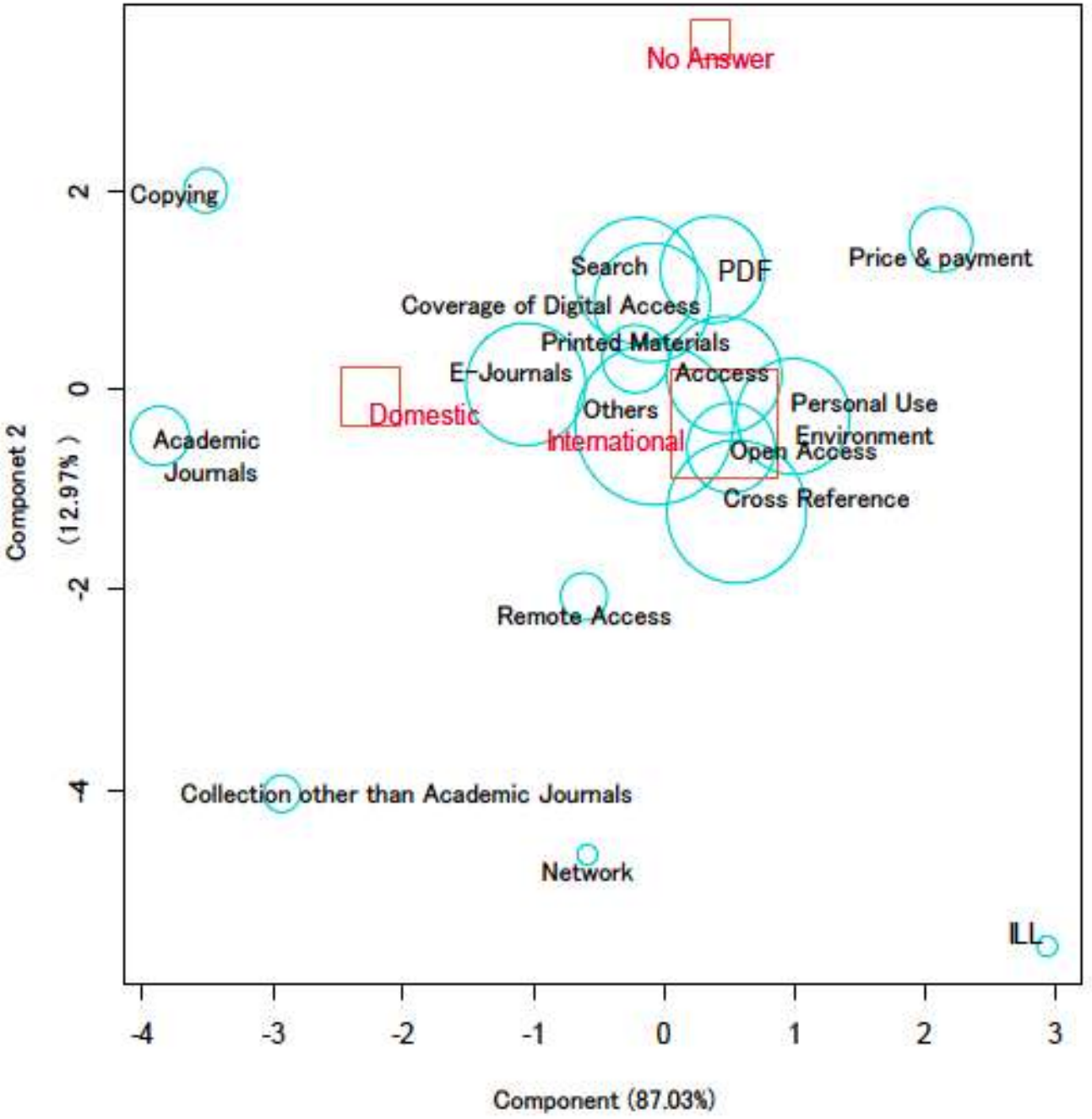
KWIC concordance (“download”)



Coding result of comments on “Functions desired in E-journals,” 2011

Coding Term	Frequency	Percentage
Cross reference	225	13.16%
Search	177	10.35%
E-journals	169	9.88%
Range of digital access	160	9.36%
Access	153	8.95%
Personal use envrionment	148	8.65%
PDF	127	7.43%
Open access	89	5.20%
Printed materials	51	2.98%
Price & payment	47	2.75%
Academic journals	39	2.28%
Remote access	25	1.46%
Copying	22	1.29%
Collection other than academic journals	15	0.88%
Network	5	0.29%
ILL	5	0.29%
Others	291	17.02%
without codes	598	34.97%
Number of documents	1,710	

Result of Correspondence Analysis of comments on "Functions desired in E-journals," 2011



Cross-reference & Personal Use Environment

- Users want to get all documents they need in electronic form, and to have more coverage of cross references
- Users have difficulty locating their downloaded files
  - Number of comments including the words such as;
    - "Download" --- 132, "File" or "File name" --- 65, "Citation management software" --- 18
- Supposedly, the "Download at any rate" tendency is increasing "re-reading" and "reading on screen"
- User-friendliness (or usability) may be extending; it should include ease of personal file management after downloading PDFs, as well as online search function, user interface, and coverage of collection

Conclusion

- General similarities with reports from US and Europe
  - Changes in Japan slow esp. in Humanities and Social Sciences
  - Slowness tied to traditional use of domestic, printed journals
- Steady increase in preference & expectations for E-Journals
  - Regardless of preference for international or domestic documents
- Promotion of further transition expected in the areas of range of digital access (more journals/resources and/or more back numbers), cross-referencing, ease of access (open access) and etc.

Thank you very much for your attention!

http://www.screal.jp