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# Local and Regional Impact of Open Access Journal Articles: Citation analysis on research papers by Korean authors

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Why do I think is important citation analysis?

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## Hypothesis

**Searching is to overview current knowledge**

Access and reading are to understand particular knowledge.

**Citing is to list up the knowledge.**

What I know, and what I want others to know.

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## Expected results of our analysis

**Diversity of cited journals when search based selection**

**Limited cited journals when embellishment prevails**

Embellish the research by citing famous articles

# Hypothesis

## Why are “Local and Regional” research important?

- (Research ecology) Research environment and demand are different.
  - (Research trends) Time related factors are contributing to research outcomes.
  - (Diagnosis and discover) Knowing local and regional issues will show knowledge priority and requirements.
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# Expected results of our analysis

## Citation pattern in “Local and Regional” research is different from ~~~

- (Practical citation) Authors cite more local articles from local journals
- (Subject area) Different patterns by subject areas
- (Embellishment) Unnecessary references are omitted in articles from local journals.
- (Interests) Interests of nation, societies, institution and research staffs are reflected.

# How many **Journals** **Articles** are open access?

OA journals comprise  % of SCI/SSCI/AHCI or  % of Scopus journal titles?

OA journals comprise  % of all journal titles available in my library?

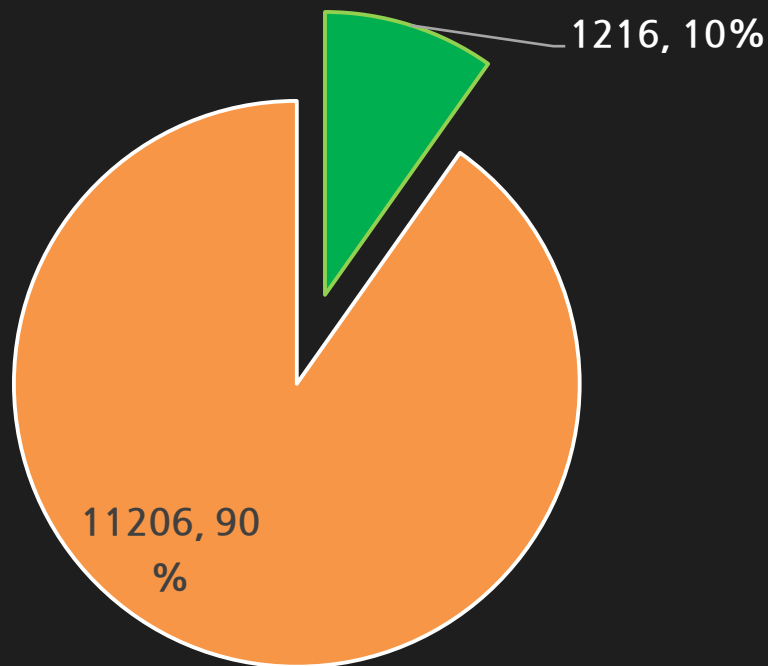
% of all articles by Korean researchers are published in OA journals?

% of all references from published articles by Korean authors are from OA journals?

- 
- Journals at available open access registries: DOAJ (9,709), PMC(1,059), Scopus (2,583)
  - Potential open access journals are not counted as open access.
  - **We listed journal titles cited more than once by Korean authors first and then checked whether they are OA journal as defined above.**

OA journals comprise **A-1** % of all SCI- SSCI- AHCI or **A-2** of all Scopus journal titles?

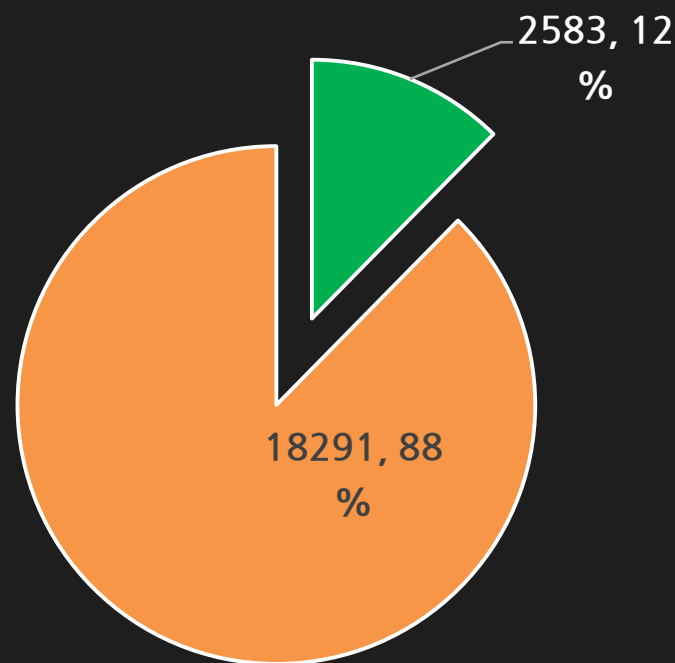
**A-1** WoS: 9.8%



1,216 (9.8%) journal titles are open access among 12,422 indexed by ISI.

- 12.2% of SCIE journals (982/ 8,040)
- 11.1% of SSCI journals (165/ 2,986)
- 4.9% of AHCI (69/ 1,396)

**A-2** Scopus: 12.4%



2,583 (12.4%) journal titles are open access among 20,874 indexed by Scopus.

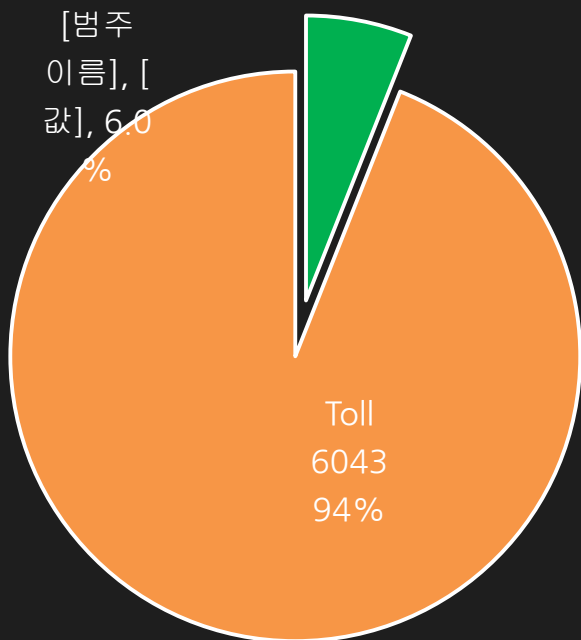
- 17.7% of Life science journals (758/ 4,290)
- 15.9% of Health Science journals (1,056/ 6,656)
- 11.4% of Physical science journals (762/ 6,683)
- 7.5% of Social science journals (554/ 7,394)
- 5.8% of Art and Humanities journals (143/ 2,445)



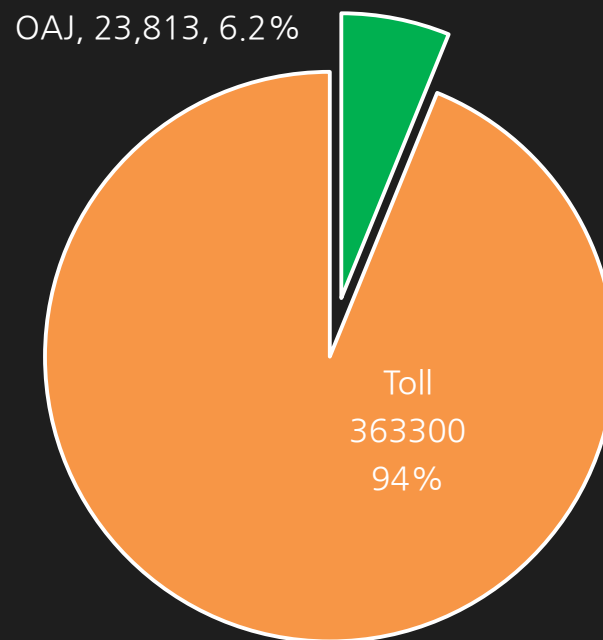
C % of all articles by Korean researchers are published in OA journals?

C 6% **23,813 (6.2%) of articles among 387,113 articles are in OA journals during 21 years(1991-2011).**

No of journals to which Korean researchers submitted more than 1 article during 21 years.



No of articles submitted by Korean researchers during 21 years.



\*The number of journals is the lowest estimate.  
\*\*The proportion of OAJ should be higher than 6%.

\*The number of article may be 10% higher.  
\*\*The proportion of OAJ is a close approximate.

# How many **Journals** **Articles** are open access?

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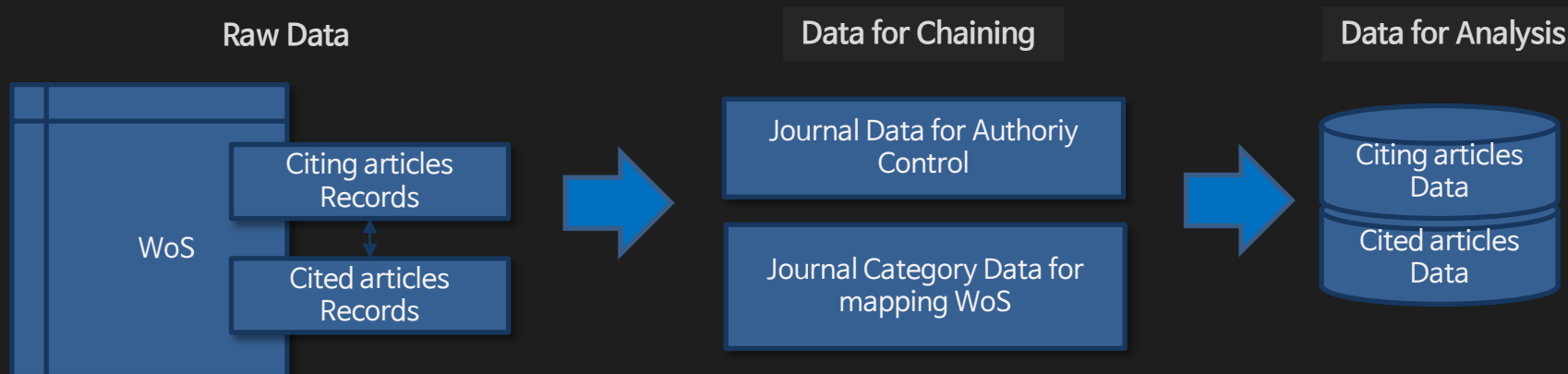
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## How we collected “WoS Data.”

- As a user of SNU library subscribing Web of Science, JCR and NCR
- On-line collection of articles thru searching on address of authors.
- Number of citing articles: 448,280 (445,579) in 1991–2011 (**Korea**)  
citing articles (**SNU only**): 52,295 (**1998–2011**), 6,100 (**SNU 2011**)
- Number of cited articles: 9,864,892 (incl. 410,000 non-journal cited articles) (Korea)  
cited articles (**SNU only**): 2,750,485 (**1998–2011**), 379,248 (**SNU 2011**)

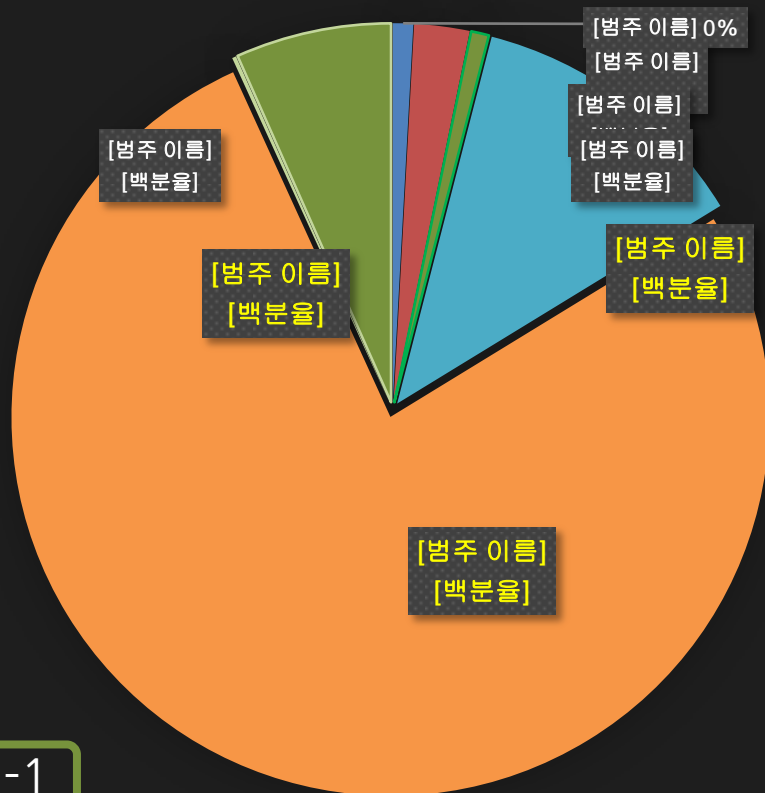


※ Years of citing articles are coupled with journal titles of cited articles

# WoS Data Summary for cited articles (SNU 2011) excluding unmatched journal names

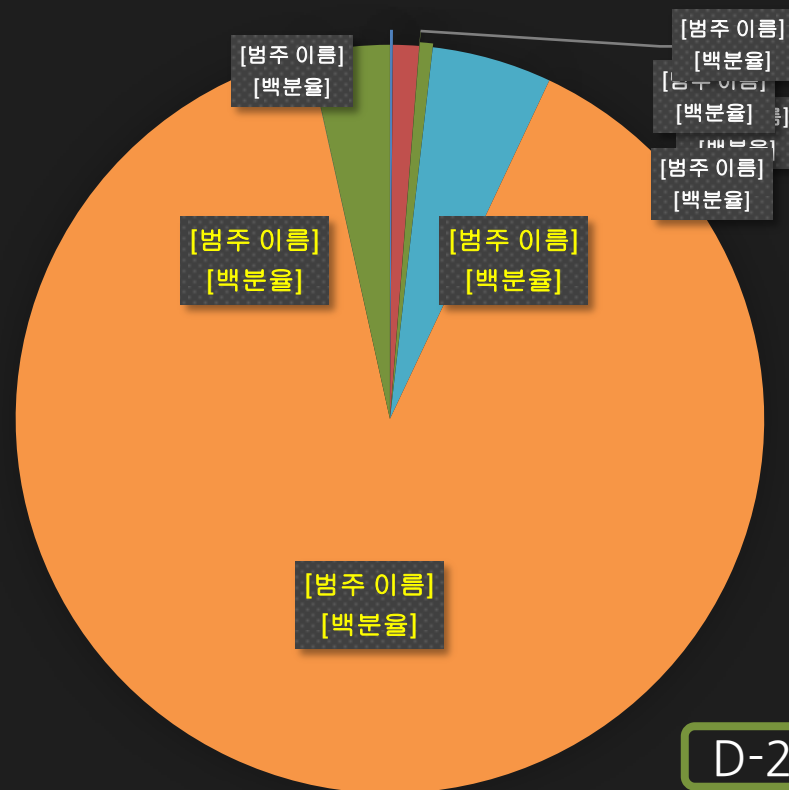
## Proportion by Journal Groups

### Journal Title Counts



D-1

### Cited Article Counts

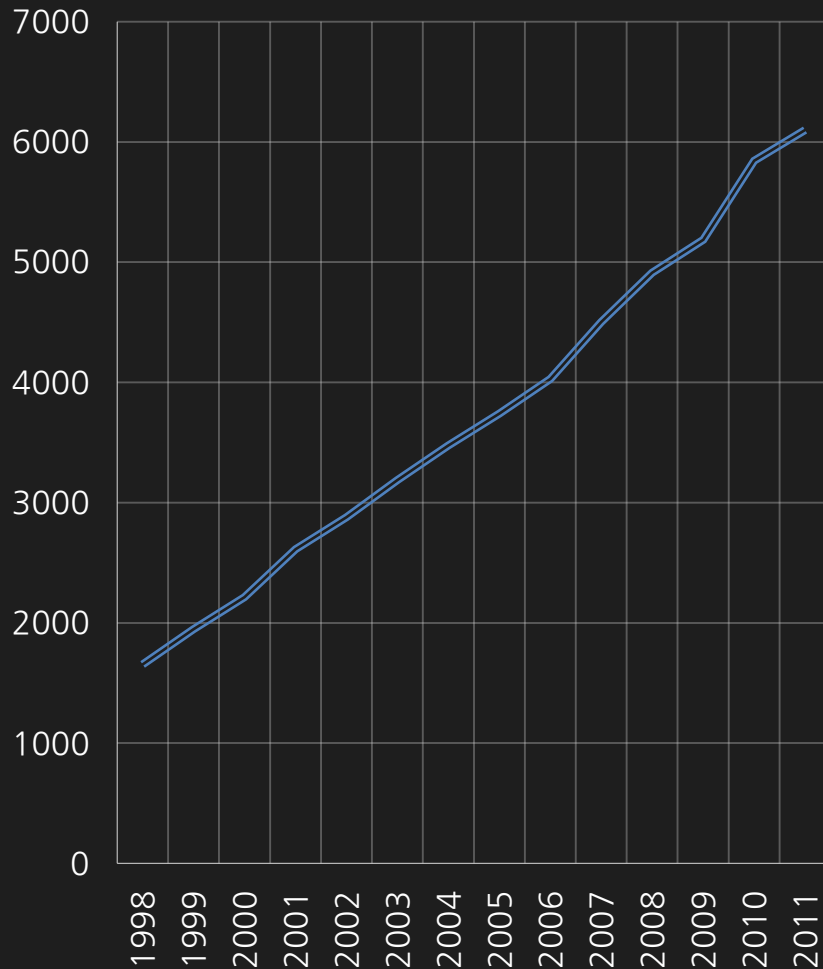


D-2

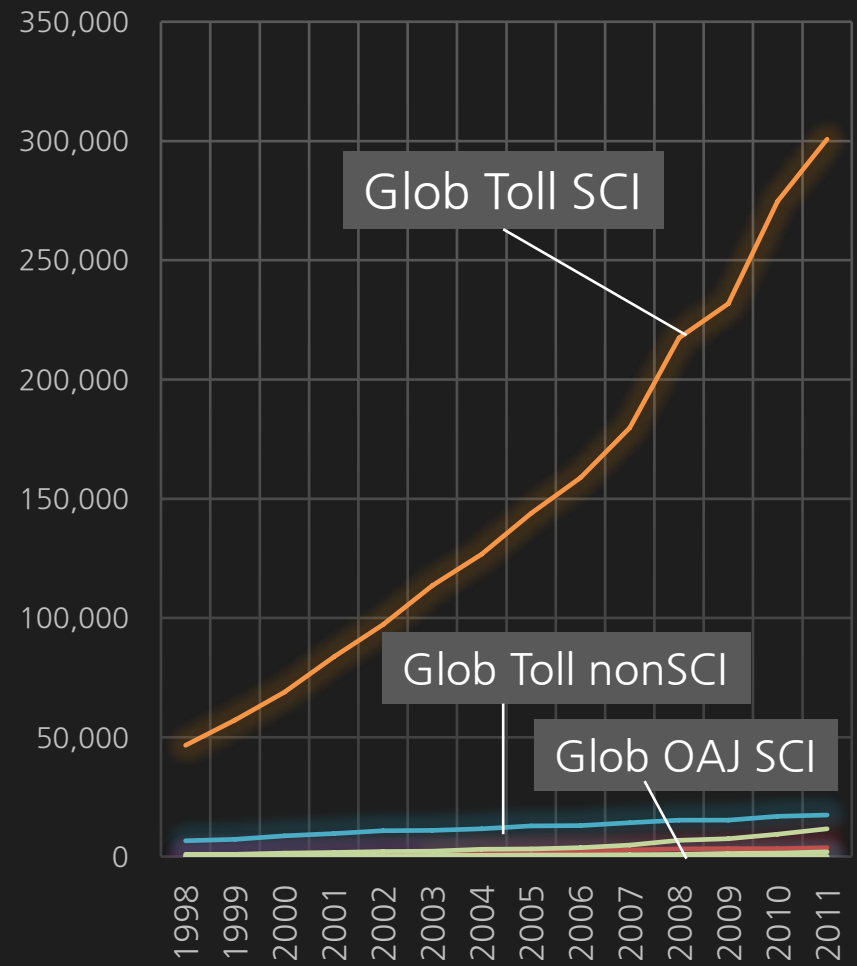
- After exclusion of numbers of articles with un-matched journal names (11%).
- WoS indexed articles are vast majority of articles cited (90%) and journals contributed (77%).

# Yearly production of Citing articles and Cited articles in **Seoul Natl Univ 1998-2011**

## ✓ Yearly production of **Citing** articles



## ✓ Yearly sum of **Cited** articles



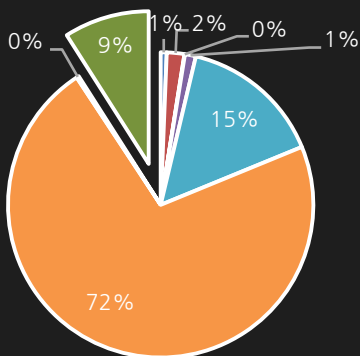
※ Source: WoS

- Loc Toll Non-SCI
- Loc Toll SCI
- Loc OAJ NonSCI
- Loc OAJ SCI
- Glob Toll NonSCI
- Glob Toll SCI
- Glob OAJ Non-SCI
- Glob OAJ SCI

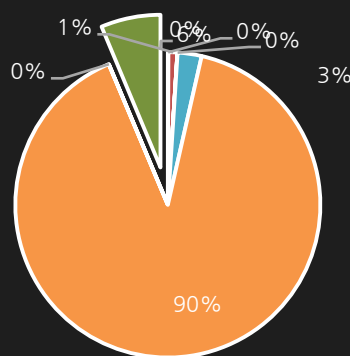
# OA Portion by Subjects; Journals vs Articles (SNU 2011)

Journals

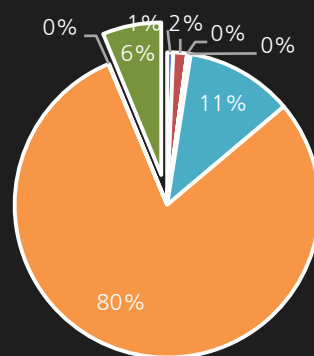
## ✓ Medicine Health



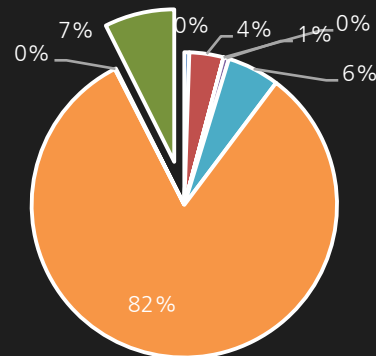
## ✓ Engineering



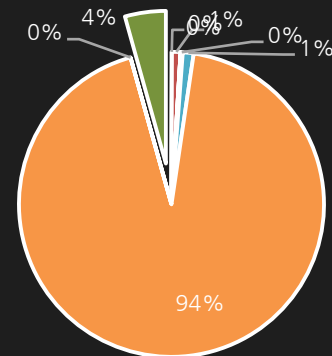
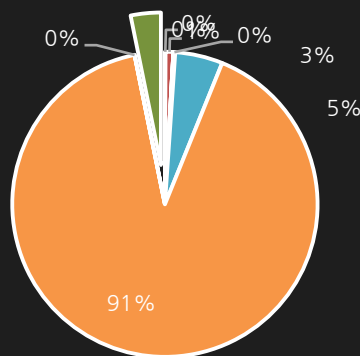
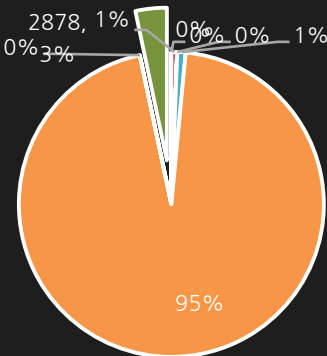
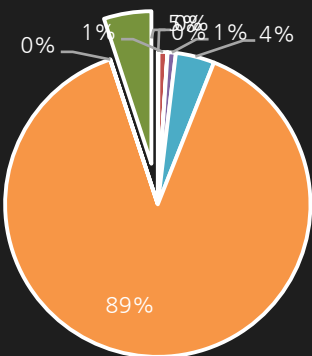
## ✓ Natural Science



## ✓ Agro-Marine



Articles



## The Gateway to Research Information in Korea



### 1 Aggregation

Aggregation of academic data from around the world

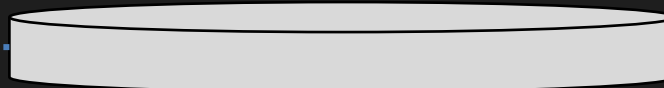
### 2 Connect to Libraries

- Connect to college libraries through Linking Resolver
- Provided by the libraries for academic search API

### 3 Citation Index

Citation index DB to provide in-depth academic information for researchers (Non-commercial)

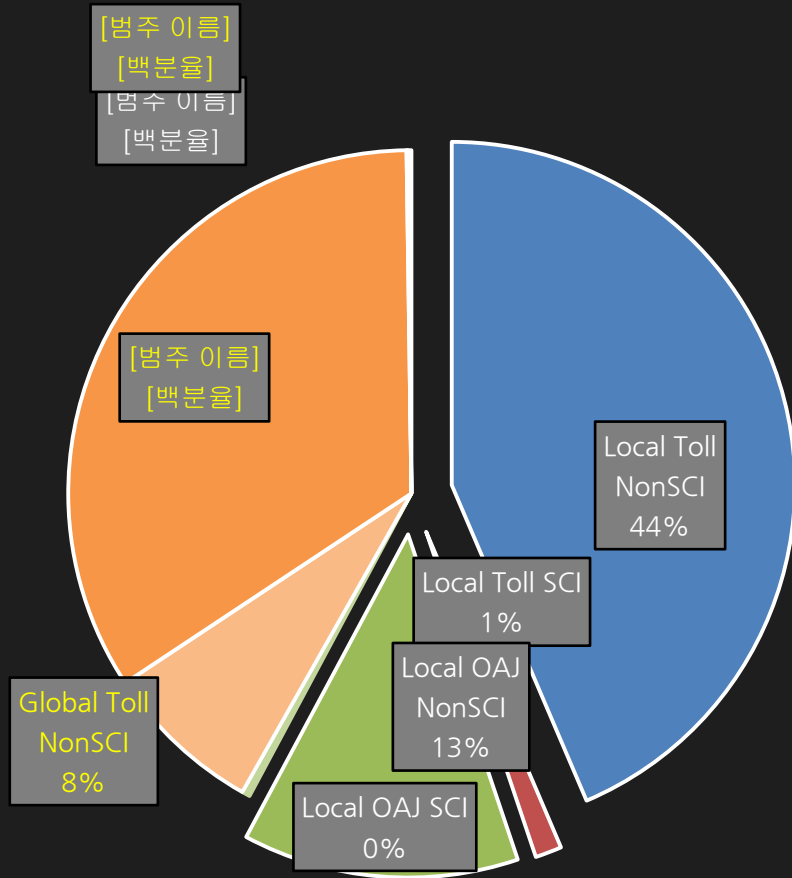
### Synonym DB for 'Authority Control'



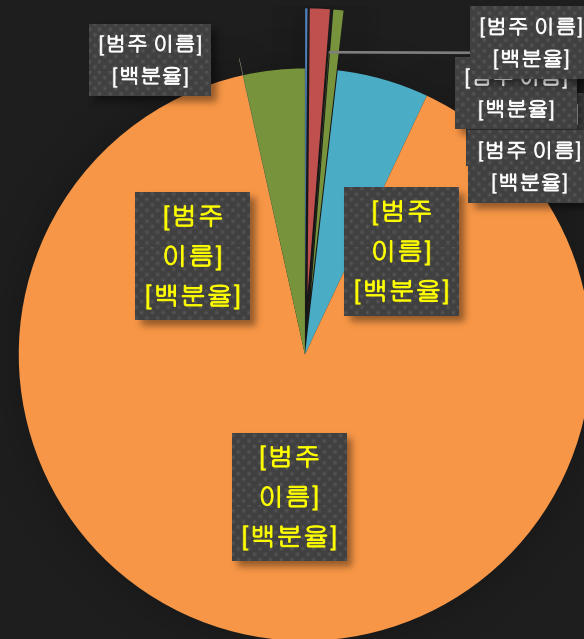
About 110,000 journals, 2.5M Synonym  
About 20,000 academic societies, 0.2M Synonym  
About 10,000 Korean government offices, 0.1M Synonym

# Distribution of cited articles in NAVER Academic is different from Web of Science

## Cited articles in NAVER database

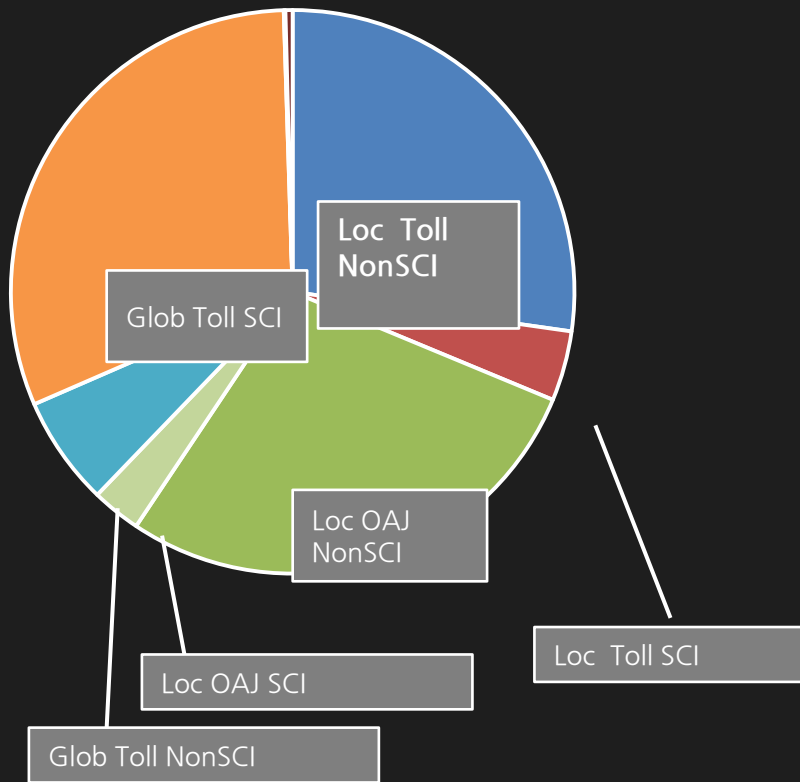


## Cited articles in WoS database

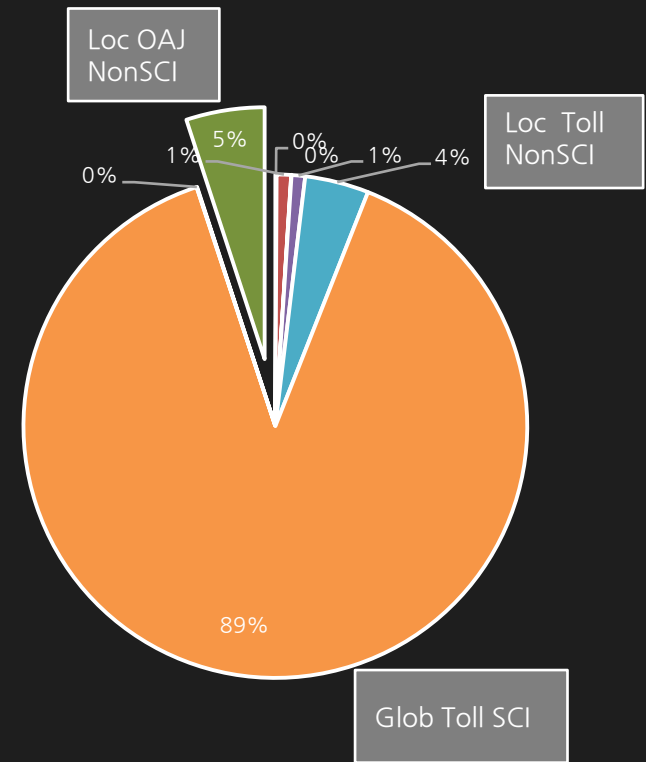


# OA Portion of Articles by Subjects in Naver Academic

## Medicine Health (Naver)



## Medicine Health (WoS)



Open Access is not as much used as we expected.

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## Different Referencing by Korean Authors

	When they submit to “ <b>Global</b> Journals”	When they submit to “ <b>Local</b> Journals”
Citing OA Journals %	0.3~6%	4~41%
Citing Local Journals %	0.5~1.8%	32~89%



### Local & Regional citation databases indicate - - -

- Local / regional Research Culture & Custom
- Local / regional Knowledge Demand & Trends
- Local / regional Publishing Market Opportunities
- Local / regional Evidences & Critiques on Policies on Research
  - Cross publisher /cross county metric system on citation
  - Regional Citation Database Network

### Local & Regional strategy for Open Access

- **More people to read OA,**
- **More scientists to write OA,**
- **More authors to cite OA.**

**Encourage Reading, Writing & Citing**

End of Slides