EVALUATION OF SCIENTIFIC DISCIPLINES FOR TURKEY: A CITATION ANALYSIS STUDY

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Plan

- Introduction
- Research Questions and Methodology
- Findings and Discussion
  - Publications and their Distribution by Year
  - Document Types
  - Number of Authors
  - Literature Obsolescence and Citing Half-Lives
  - Journal Choices of Authors
- Conclusion

Introduction

- Importance of understanding each individual's information behaviors

- Revealing information behaviors;
  - Questionnaires
  - Citation analyses

- Information behavior studies in the literature;
  - After Second World War
  - "the study of information-seeking behavior can be said to be the study of scientists' information-seeking behavior" (Wilson, 1984)
  - 1967 - INFROSS Project - Social Sciences
  - In recent years - Arts and Humanities

Aim of Study

- Evaluate scientific disciplines;
  - Pure Sciences
    - physics, chemistry, biology and mathematics
  - Social Sciences
    - history, economy, library and information science and education
  - Engineering
    - chemical engineering, computer engineering, electrical and electronic engineering
  - Arts and Humanities
    - art, philosophy and humanities
- For Turkey
- By using citation analysis

Research Questions

- Publication types?

- Average author number for each discipline?

- Single/multiple authorship?

- Citation half-life?

- Authors' choices?

Methodology

- Data source Web of Science
- Turkey addressed 197,687 publications
- 1928-2009
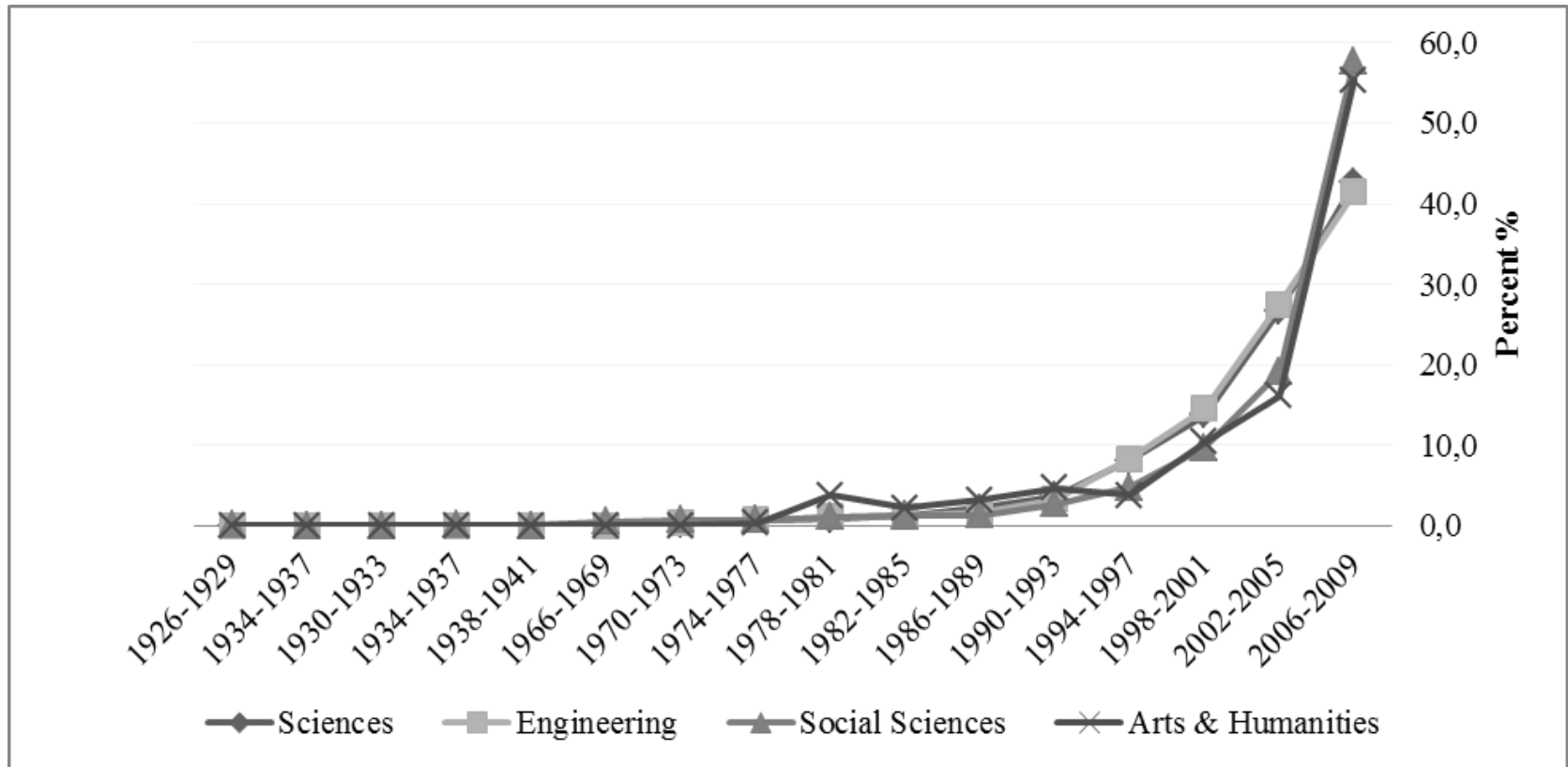- Deep data cleaning and standardization process

- Limitations
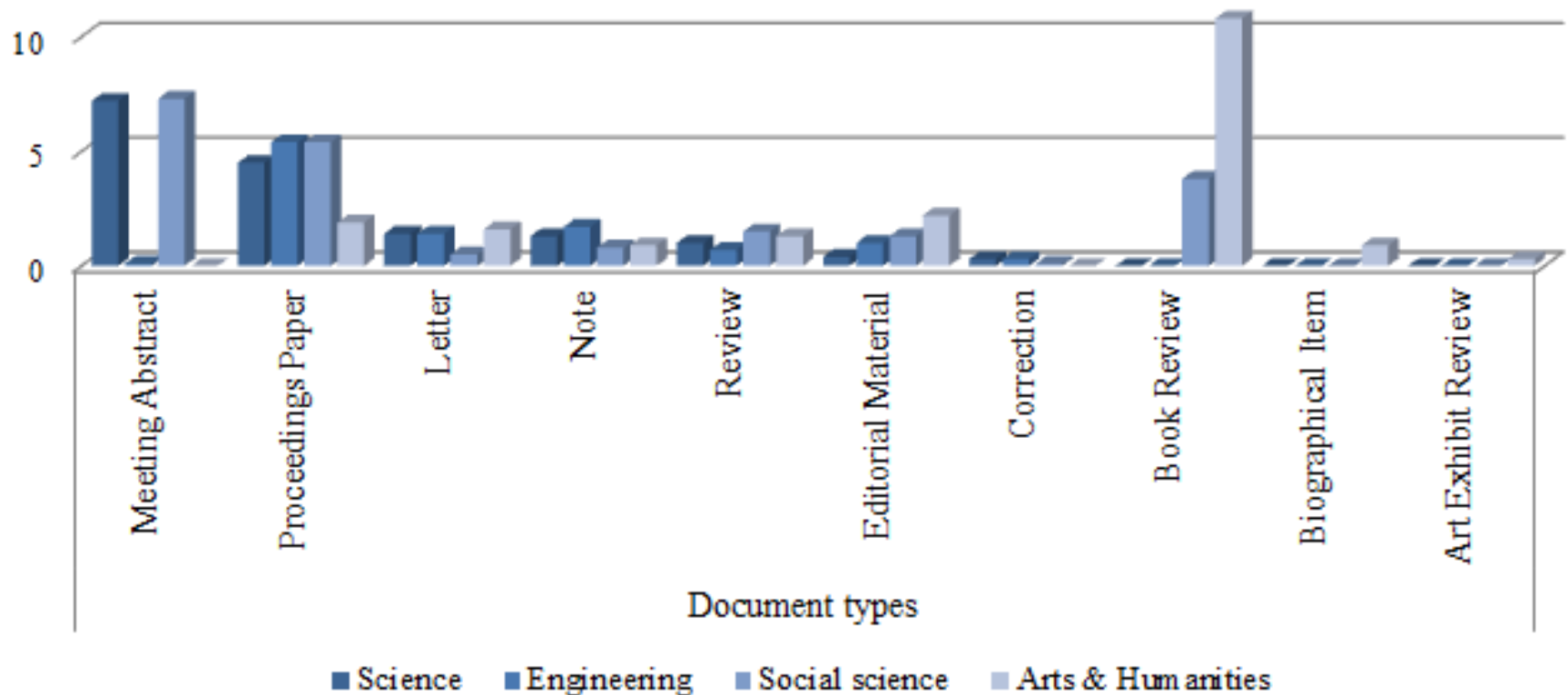 - Inequality of the data on Web of Science
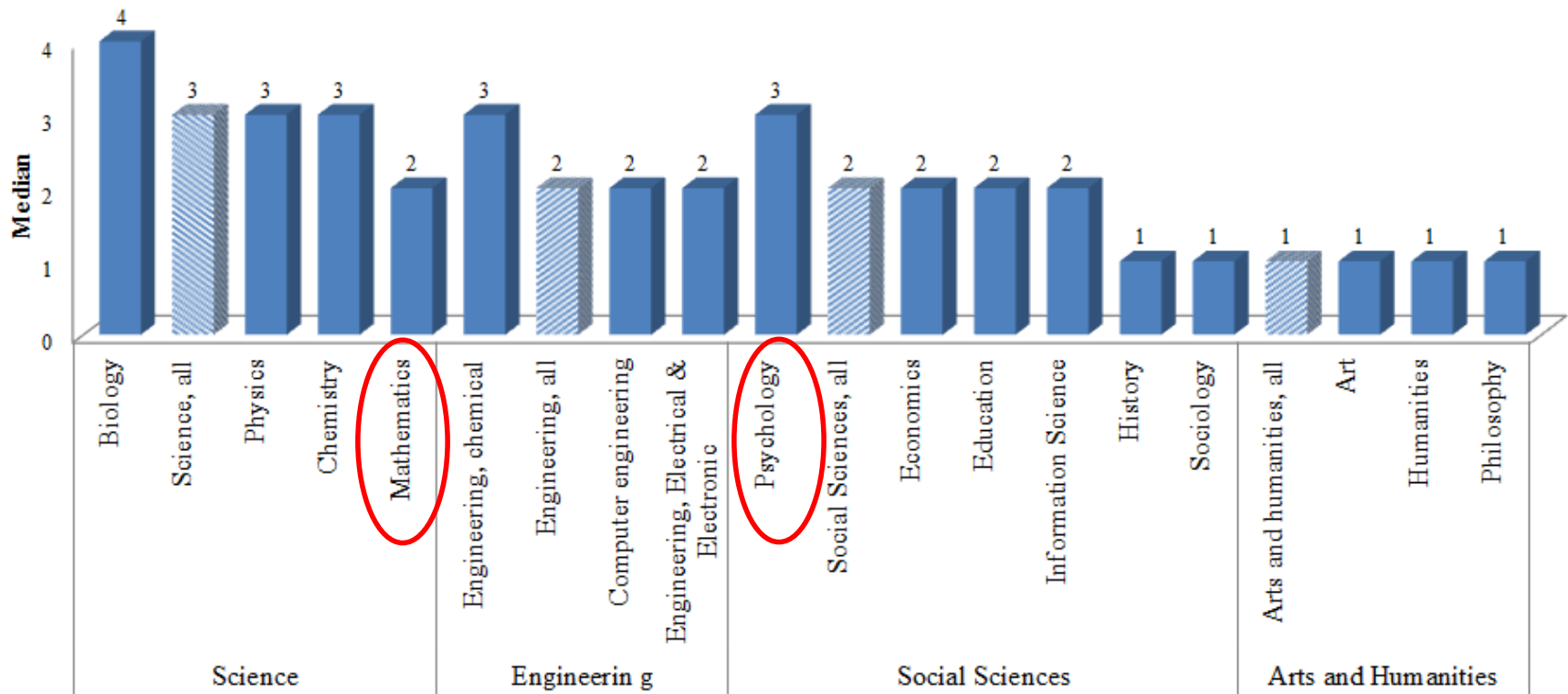
FINDINGS

Publications and their Distribution by Year

Document Types
(articles are excluded)

Document types

■ Science ■ Engineering ■ Social science ■ Arts & Humanities

Average Number of Authors

Multiple Authorship

Literature Obsolescence and Citing Half-Lives

"The citing half-life is the median age of articles cited by the journal in the JCR year"
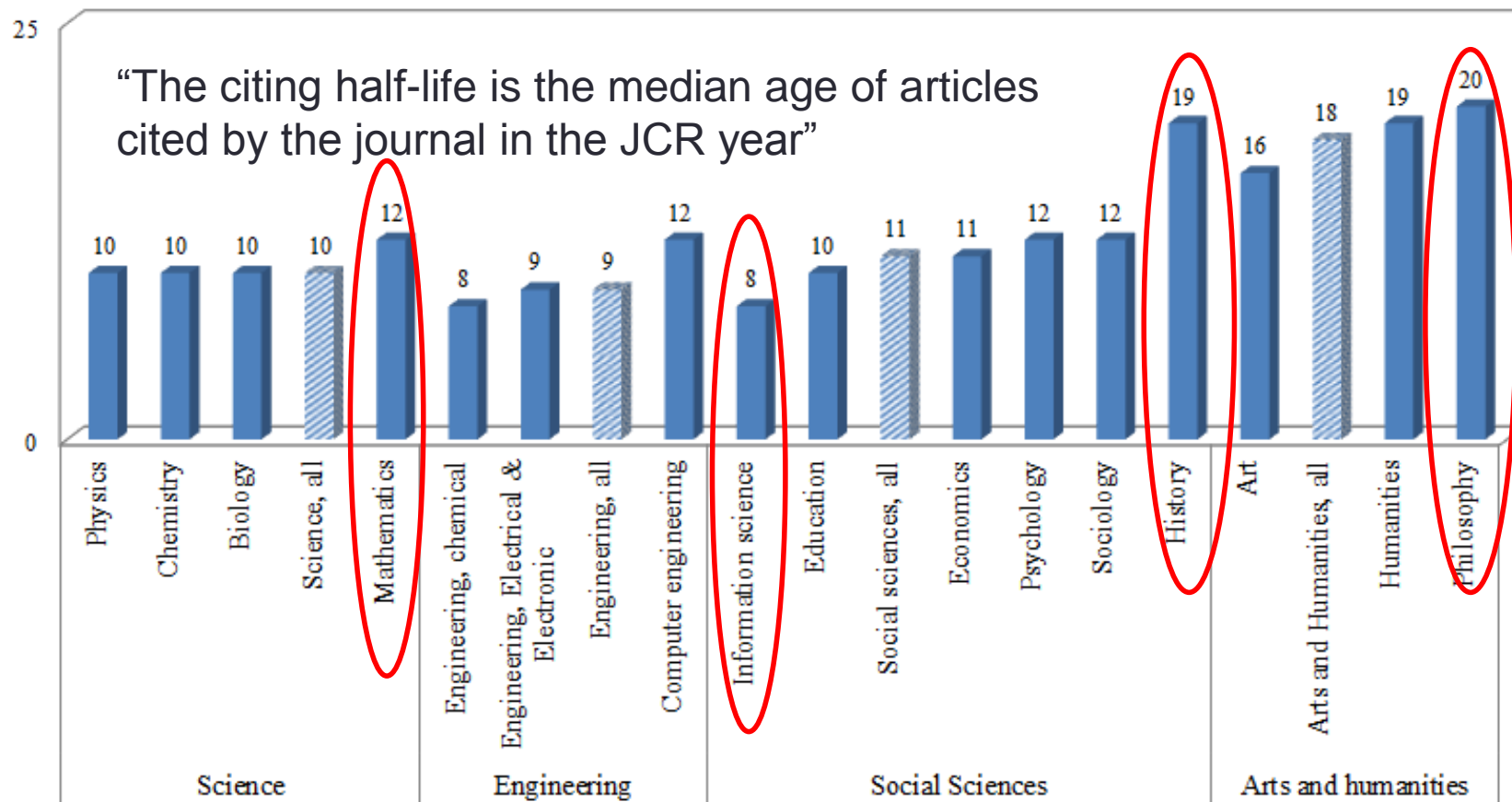
Journal Choices of Authors
The Field of Education

Top and mostly preferred journals of education field.

Top journals	IF*	JR**	NTP***
Review of Educational Research	4.229	1	0
Learning and Instruction	3.337	2	3
American Educational Research Journal	3.104	3	0
Journal of The Learning Sciences	3.036	4	2
Academy of Management Learning & Education	3.000	5	0
Preferred Journals	**IF***	**JR***	**NTP***
Hacettepe Universitesi Egitim Fakultesi Dergisi	0.350	173	141
Kuram ve Uygulamada Egitim Bilimleri	0.316	179	124
Egitim Arastimalari-Eurasian Journal of Educational Research	0.455	142	123
Egitim ve Bilim-Education and Science	0.429	150	113
Turkish Online Journal of Educational Technology	n/a	n/a	46

*IF: Impact factor
**JR: Journal rank in the category
***NTP: Number of Turkey-addressed publications

Turkish Journals

Journal Choices of Authors Physics

Top and mostly preferred journals of physics field.

Top Journals	IF*	JR**	NTP***
Reviews of Modern Physics	44.982	1	1
Nature Materials	35.749	1	4
Advances In Physics	34.294	2	1
Nature Photonics	27.254	2	0
Physics Reports-Review Section of Physics Letters	22.929	2	3
Preferred Journals	**IF***	**JR***	**NTP***
Acta Crystallographica Section E-Structure Reports Online	n/a	n/a	923
Energy Conversion and Management	2.775	4	449
Physical Review B	3.767	15	381
Acta Crystallographica Section C-Crystal Structure Communications	0.492	21	352
Journal of Sound and Vibration	1.613	10	318

*IF: Impact factor
**JR: Journal rank in the category
***NTP: Number of Turkey-addressed publications in this journal

Selection criteria?

Journal Choices of Authors Computer Engineering

Top and mostly preferred journals of computer engineering field.

Top journals	IF*	JR**	NTP***
Acm Transactions on Graphics	3.361	1	1
SIAM Journal of Imaging Sciences	2.966	2	0
IEEE Transactions on Software Engineering	2.588	3	5
Communications of the ACM	2.511	4	7
IEEE Transactions on Services Computing	2.460	5	0
Preferred Journals	IF*	JR**	NTP***
Mathematical and Computer Modelling	1.420	26	83
Advances in Engineering Software	1.220	35	65
Simulation Modelling Practice and Theory	1.159	40	26
Mathematics and Computers in Simulation	0.836	64	19
Journal of Systems and Software	1.135	41	16

*IF: Impact factor
**JR: Journal rank in the category
***NTP: Number of Turkey-addressed publications in this journal

Selection criteria?

Conclusion

- Articles are most preferred document type
  - Document types differ for each discipline
- Co-authorship is common for engineering and science
  - Arts and humanities have highest rate of single authorship
- Half-life is high for history and philosophy
  - Information science is closer to engineering
- Social scientists prefer Turkish journals for publication
- Impact factor is not a determiner
- A survey to collect data about journal selection criteria
- Results can help policy making and financial decision processes

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