

THE DELPHI METHOD IN INFORMATION LITERACY RESEARCH

DIJANA ŠOBOTA

PhD student

Department of Information and Communication Sciences
Faculty of Humanities and Social Sciences
University of Zagreb, Zagreb, Croatia

dijanasobota@gmail.com



European Conference on
Information Literacy (ECIL)

Krakow, Poland

9-12 October 2023

CONTENTS

01

**Key features
of the Delphi
method**

02

**Research
questions and
the method**

03

**Findings:
how IL research is
operationalized by
the Delphi method;
state of method's usage
& its key features**

04

**Assessment of the
appropriateness of
the Delphi method
for IL research;
directions for
future work**

00

INTRODUCTION



RESEARCH GAP

Research methods not a research focus of IL studies

Explorations of Delphi in LIS (Chu, 2015; Ju & Jin, 2013; Lund, 2020; Poirier & Robinson, 2014) have not focused on its application to IL

AIM

Understand (how IL research is operationalized by means of) Delphi
Assess the usefulness of Delphi to IL research
Expand the IL research qualitative toolbox

“A method for structuring a group communication process, so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem.”
(Linstone & Turoff, 1975, p.3, emphasis added)

Developed in the 1950s

Predominantly qualitative

No strict rules
on the number of rounds
(2 min.; 3 most effective)
(Landeta, 2006; Linstone &
Turoff, 1975)
on the number of experts
(min. 10, max. 50)
(Linstone & Turoff, 1975)

Key factor - selection of
experts:
deep understanding of the
problem
(Okoli & Pawlowski, 2004);
an insider’s
perspective/intimate
experience and knowledge
of the issue
(Baker et al., 2006);
represent the key aspects
of the issue (Zins, 2000)

Introduced in IL
research by C. Doyle
(1992): IL definition &
competence outcomes

A series of rounds of
anonymous surveys with
controlled feedback

Allows forecasting,
problem solving, decision
making, prioritization,
issue identification...

A variety of types
(Hasson & Keeney, 2011)

02

RESEARCH

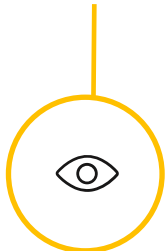
**RESEARCH QUESTIONS**

= analytical categories, formulated on the basis of the Delphi methodological literature and a similar previous study (Lund, 2020)

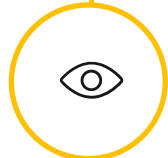
1. What **IL issues** and which **research contexts** are studied using Delphi?
2. Which **types of Delphi** have been used?
3. What is **the number of rounds//of experts** in IL Delphi studies?
4. What is the main **population** of IL Delphi studies//**how have experts been selected?**
5. What are the most common **types of findings** of IL Delphi studies?

A SYSTEMATIC LITERATURE REVIEW

April & December 2022



Web of Science; Scopus; Library and Information Science Source; ProQuest Library and Information Science Collection; Library, Information Science and Technology Abstracts



TITLE, ABSTRACT and/or KEYWORDS



“information literacy” AND research AND (Delphi OR “Delphi method” OR “Delphi study” OR “Delphi technique”)



critical literature review; qualitative content analysis; descriptive statistical analysis



Non-defined temporal span

INCLUSION CRITERIA

- peer-reviewed academic journal article
- indexed in five databases in the field of LIS
- written in English
- search terms in the title, abstract and/or keywords

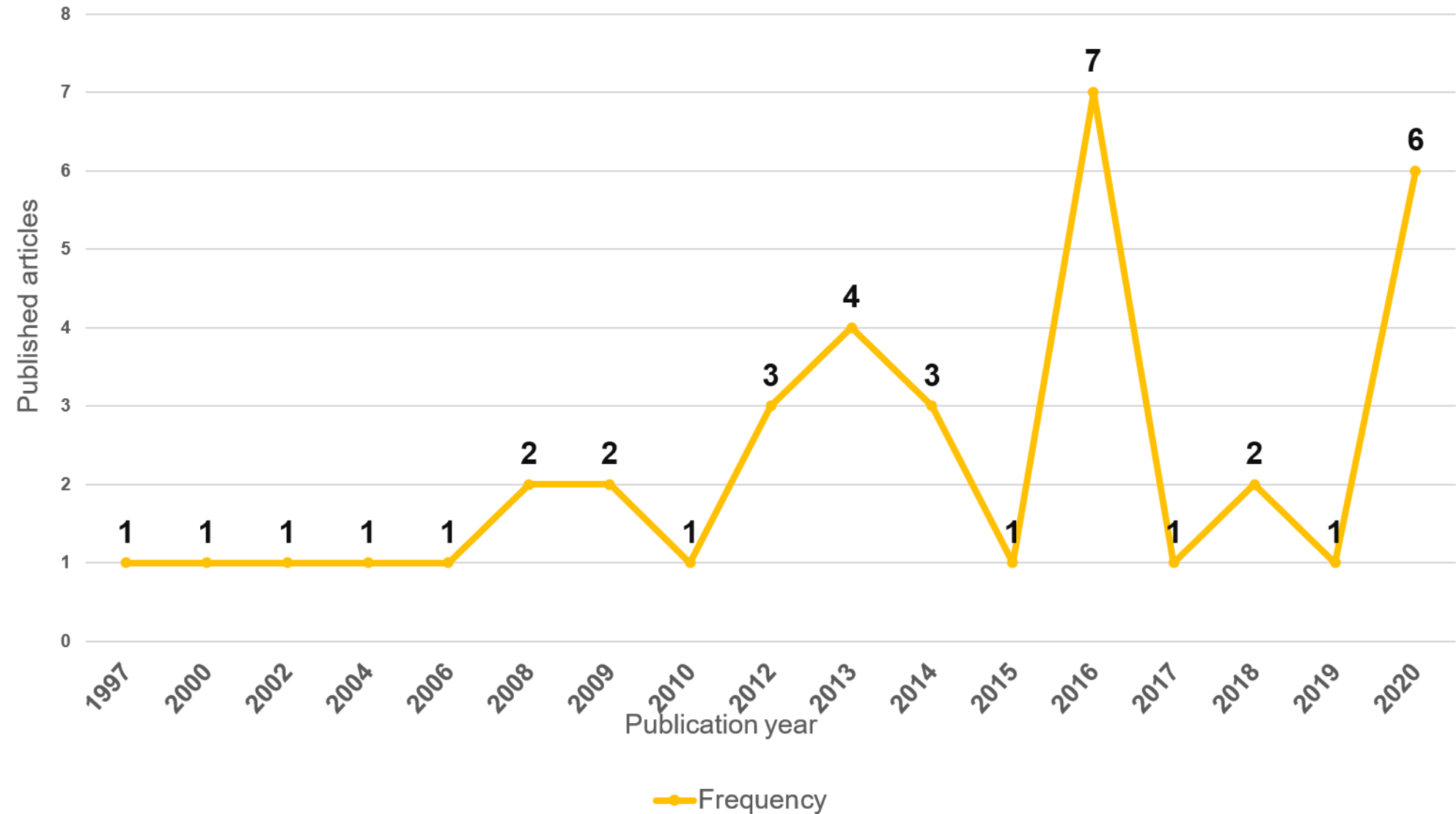
799 articles

EXCLUSION CRITERIA

- duplicates
- full text could not be accessed
- wrongly categorized/indexed
- vetted for relevance (use of Delphi / in IL research)

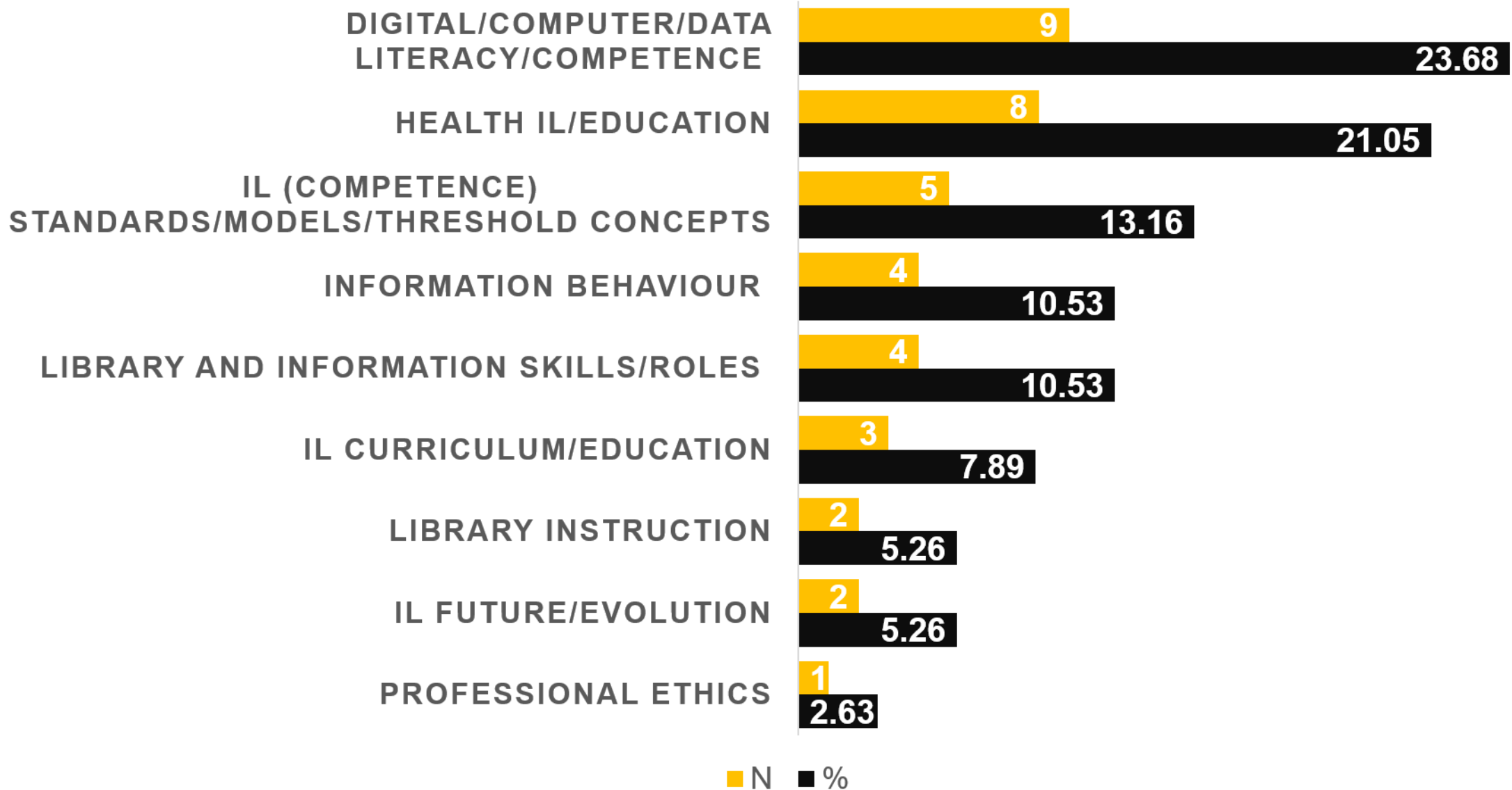
38 articles

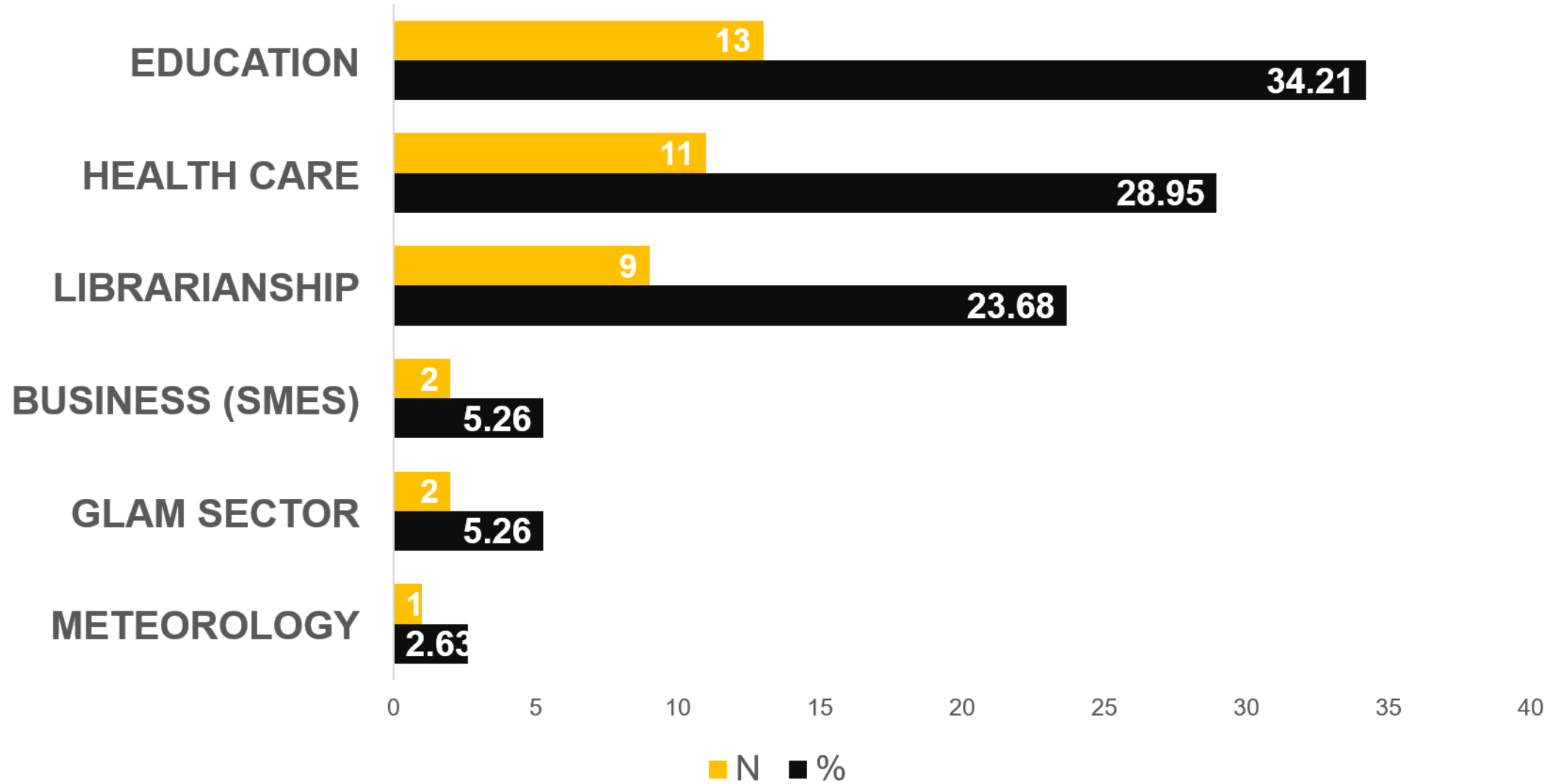
03_ FINDINGS: TRENDS IN THE PUBLICATION OF IL RESEARCH ARTICLES UTILIZING THE DELPHI METHOD



2.23/
year

IL RESEARCH ISSUES STUDIED USING THE DELPHI METHOD

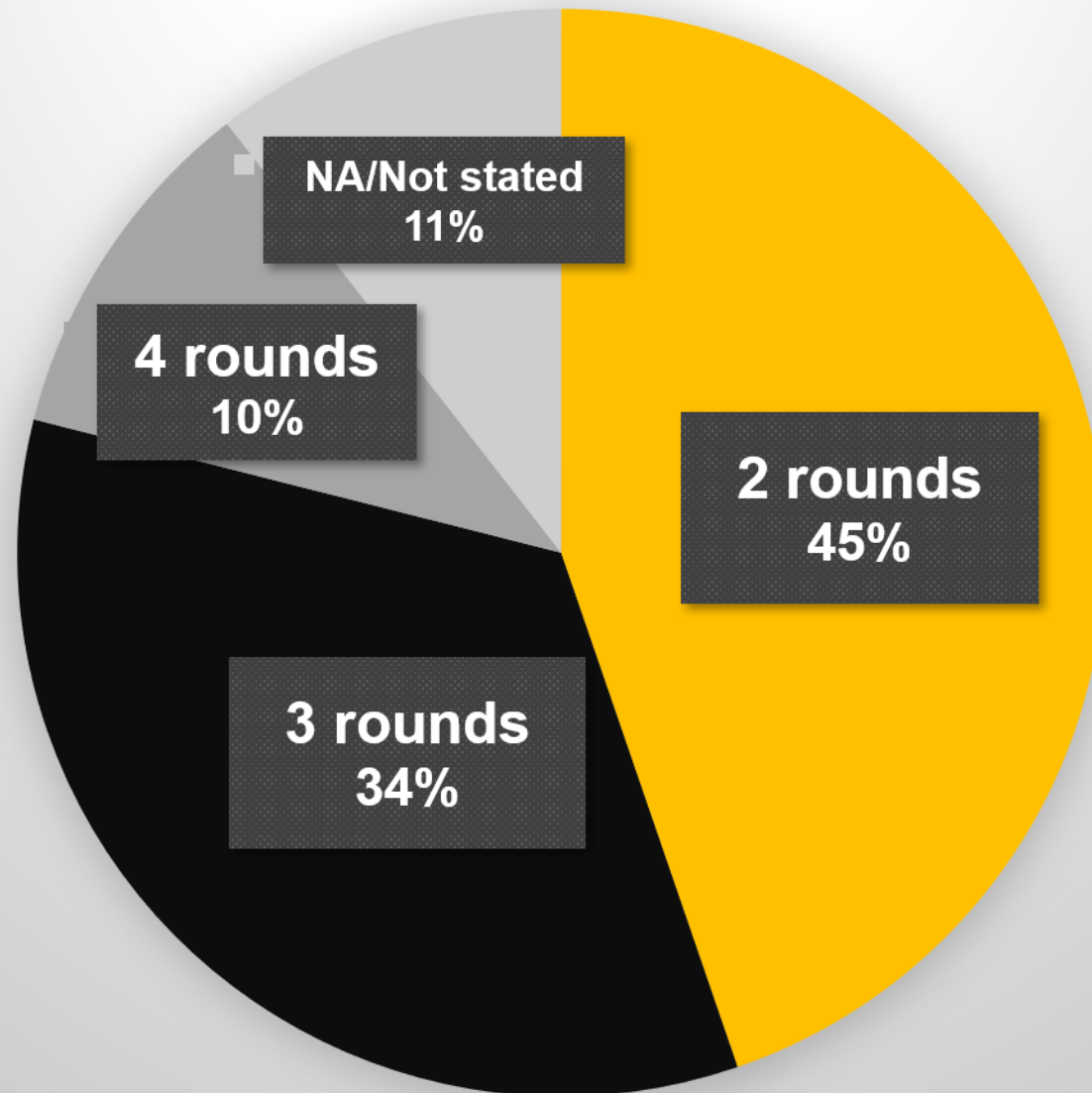




THE TYPES OF THE DELPHI METHOD UTILIZED IN IL RESEARCH

MAIN DELPHI TYPES	N	%
MODIFIED DELPHI	14	36.84%
CLASSICAL DELPHI	7	18.42%
ONLINE DELPHI	5	13.16%
MODIFIED E-DELPHI	5	13.16%
CLASSICAL E-DELPHI	2	5.26%
POLICY E-DELPHI	1	2.63%
CRITICAL DELPHI	1	2.63%
GROUNDDED DELPHI	1	2.63%
NA/NOT STATED	2	5.26%

THE NUMBER OF ROUNDS IN IL DELPHI STUDIES



Consistent with prior research in LIS (Ju & Jin, 2013) and methodological literature: no rigid rules on the number of rounds; most run over 2-3 rounds (Landeta, 2006; Linstone & Turoff, 1975)

THE NUMBER OF EXPERTS IN IL DELPHI STUDIES

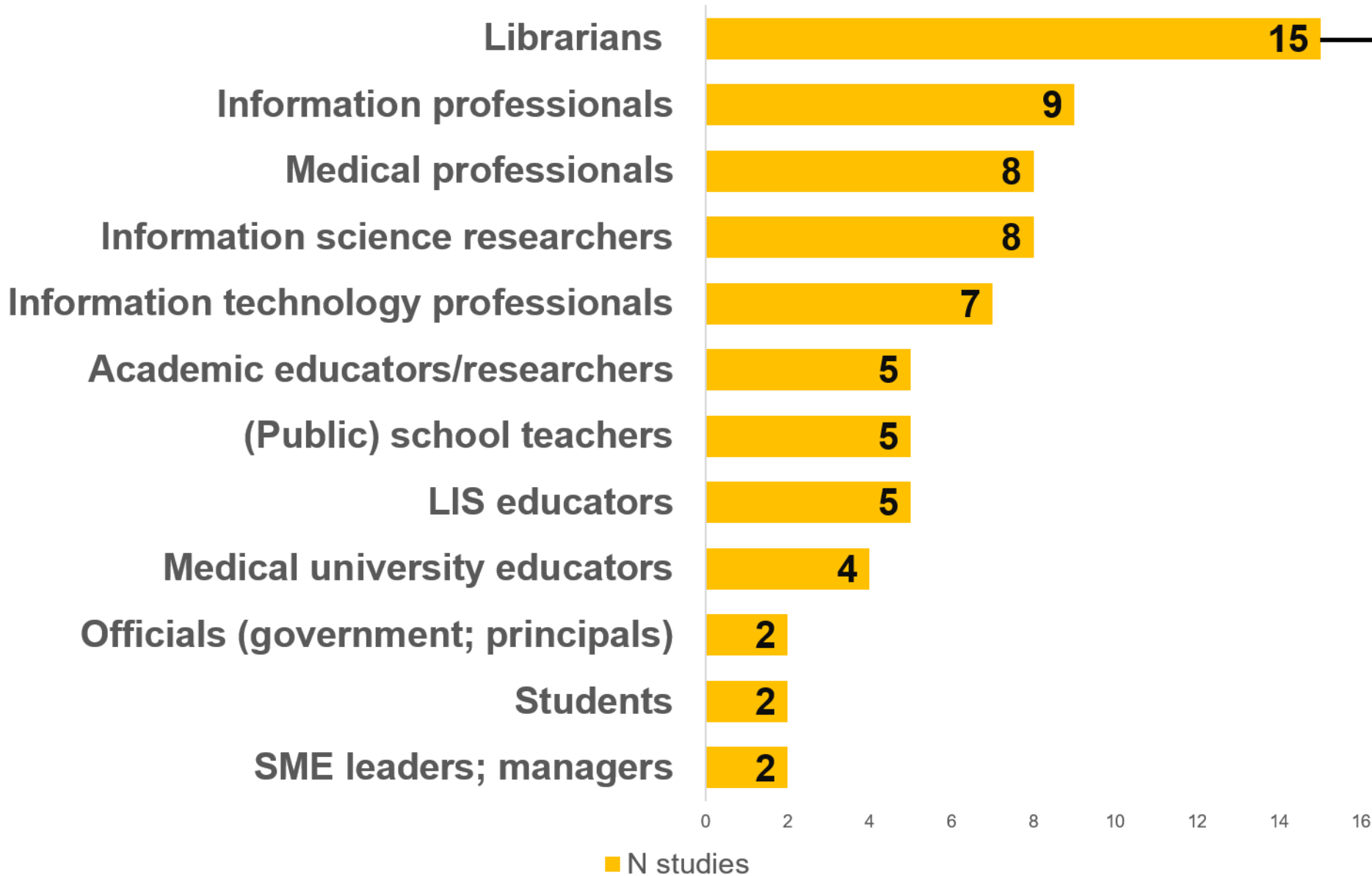
ROUND	MEAN	MEDIAN	1ST QUARTILE	3RD QUARTILE	MIN.	MAX.
1	21	17	11	27	7	79
2	20	17	11	25	7	70
3	20	18	16	22	7	65
4	20	18	15	20	12	22

17
avg.

In contrast to methodological literature (Linstone & Turoff, 1975)
recommended min. 10; max. 50, and prior research (Ju & Jin, 2013; Lund, 2020)

Profile of experts/careful selection, not their number, vital for Delphi's success

THE MAIN POPULATION FOR IL DELPHI STUDIES



When examining IL competences/ outcomes; roles and skills required by librarians for IL instruction (e.g., Saunders, 2009; Connolly et al., 2013) or to meet changing users' needs (e.g., Cherinet, 2018)

Often empanelled within the same Delphi study / together with other groups of experts

03_FINDINGS:
THE GEOGRAPHICAL COVERAGE

Americas
15.8%
(N=6)

Europe
10.5%
(N=4)

Africa
2.6%
(N=1)

Asia
21%
(N=8)

Globally
15.8%
(N=6)

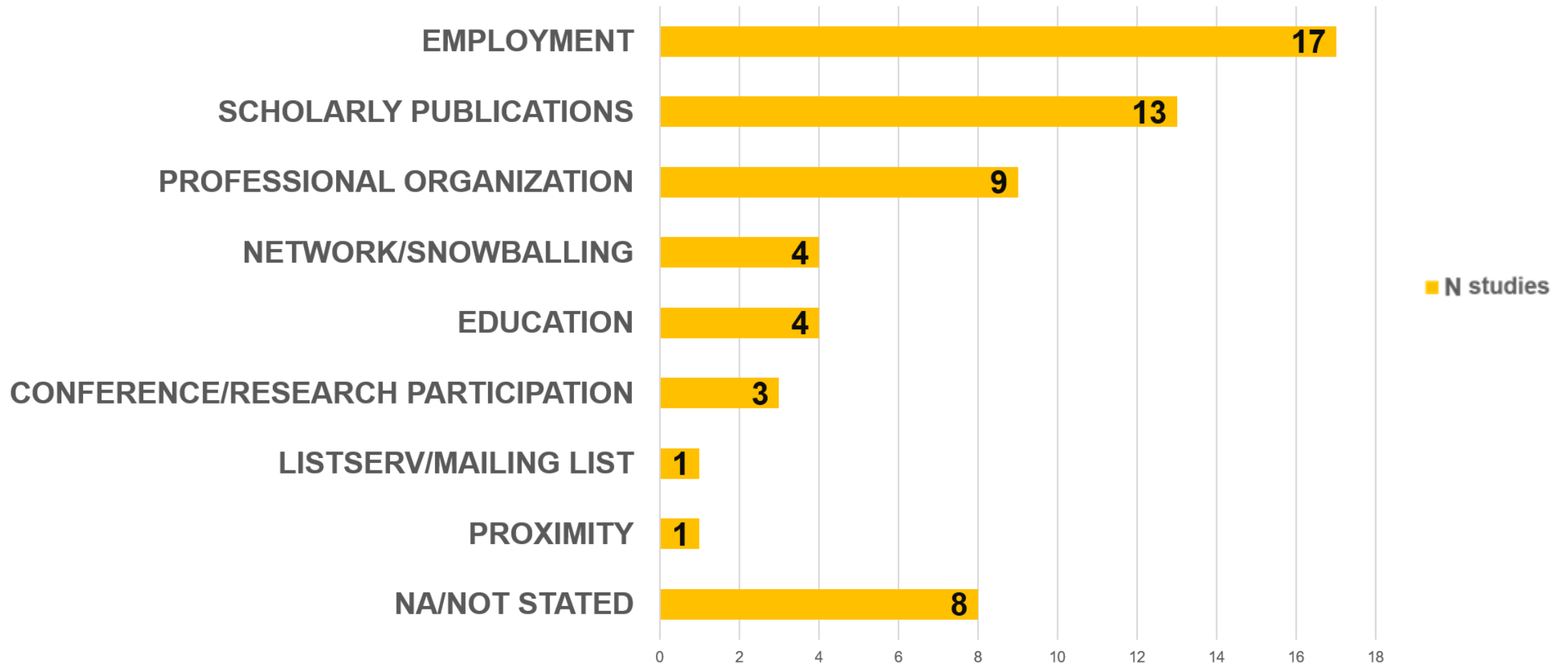
Australia
7.9%
(N=3)

26.3
%
(N=10)

NA/not stated

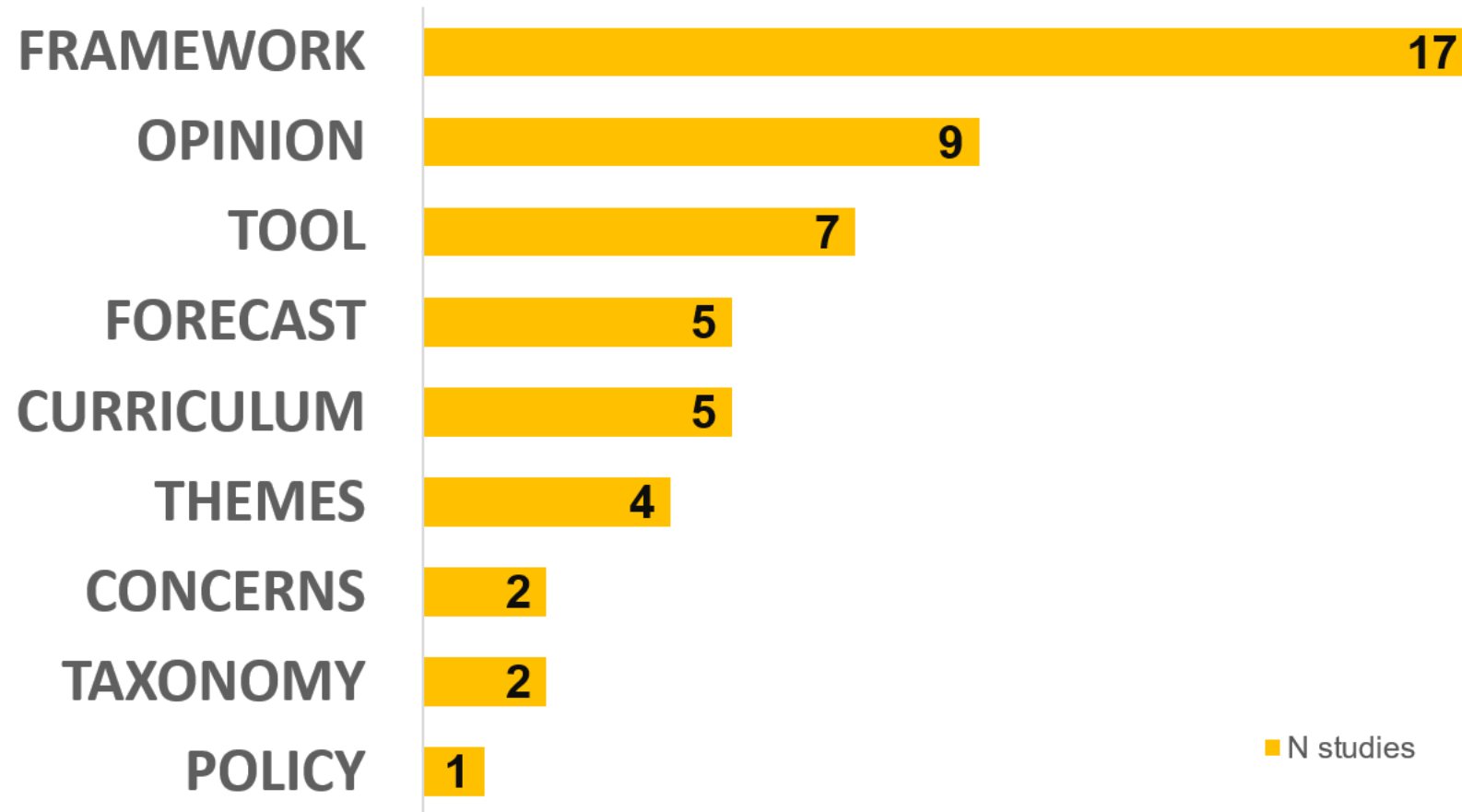


EXPERT SELECTION METHOD FOR IL DELPHI STUDIES



Multifaceted sampling strategies (to recruit diverse groups/sufficient number of experts)
Lack of a sampling procedure & objective criteria // vagueness of “expertise” – a core limitation
(Ju & Jin, 2013; Baruchson-Arbib & Bronstein, 2002; Fischer, 1978; Goodman, 1987)

THE MOST COMMON TYPES OF FINDINGS OF IL DELPHI STUDIES



■ N studies

Skills & competences focus
(educational setting) vs.
IL as a practice
//
The changing role of librarians:
from service providers to active
educators

Delphi used in conjunction with
other methods (lit. review;
interview, focus groups, survey),
to inform the next phases /
refine & validate results

Situational design; various IL research issues

Delphi's flexible & versatile design/application:

- suited to **new research areas/exploratory studies** and can contribute to both **theory and practice** (also Okoli & Pawlowski, 2004)
- allows **qualitative exploration of subjective judgements** and **individual experience** of “experts” from different fields and disciplines
- beneficial for (collective) information (literacy) experience research, in helping **bridge the theory-practice gap** and **overcoming the silos and narrow locus** approach



Need to establish **the methodological rigour**

Extend the review by

- employing **additional sources**
- encompassing **other scholarly publications**
- covering literature in **languages beyond English**

Extend the review to **other analytical categories** (e.g., theoretical frameworks, disciplinary contributions, consistency of views)

Detailed analysis of the outcomes of the studies & the **appropriateness of the research methods** for IL studies // to **expand qualitative toolbox** for IL research

DIJANA ŠOBOTA

dijanasobota@gmail.com

<https://www.researchgate.net/profile/Dijana-Sobota>



05

REFERENCES



Baker, J., Lovell, K., Harris, N.: How Expert are the Experts? An Exploration of 'Expert' within Delphi Panel Techniques. *Nurse Researcher* 14(1), 59-71 (2006). doi: 10.7748/nr2006.10.14.1.59.c6010

Baruchson-Arbib, S., Bronstein, J.: A View to the Future of the Library and Information Science Profession: a Delphi Study. *Journal of the American Society for Information Science and Technology* 53(5), 397-408 (2002). <https://doi.org/10.1002/asi.10051>

Cherinet, Y.M.: Blended Skills and Future Roles of Librarians. *Library Management* 39(1/2), 93-105 (2018). <https://doi.org/10.1108/LM-02-2017-0015>

Chu, H.: Research Methods in Library and Information Science: a Content Analysis. *Library and Information Science Research* 37, 36-41 (2015). <https://doi.org/10.1016/j.lisr.2014.09.003>

Connolly, A., Curran, L., Lynch, Á., O'Shea, S.: BILI: Building Information Literacy in Ireland. *Library and Information Research* 37(114), 37-54 (2013). <https://doi.org/10.29173/lirg565>

Doyle, C.S.: Outcome Measures for Information Literacy Within the National Education Goals of 1990. Final Report to National Forum on Information Literacy. Summary of Findings. National Forum of Information Literacy, 1-18 (1992)

Fischer, R.G.: The Delphi Method: a Description, Review and Criticism. *The Journal of Academic Librarianship* 4(2), 64-70 (1978)

Goodman, C.M.: The Delphi Technique: a Critique. *Journal of Advanced Nursing* 12, 729-734 (1987)

Hasson, F., Keeney, S.: Enhancing Rigour in the Delphi Technique Research. *Technological Forecasting and Social Change* 78(9), 1695-1704 (2011). <https://doi.org/10.1016/j.techfore.2011.04.005>

Ju, B., Jin, T.: Incorporating Nonparametric Statistics into Delphi Studies in Library and Information Science. *Information Research* 18(3) (2013)

Landeta, J.: Current Validity of the Delphi Method in Social Sciences. *Technological Forecasting and Social Change* 73, 467-482 (2006). <https://doi.org/10.1016/j.techfore.2005.09.002>

Linstone, H.A., Turoff, M.: In: Linstone, H.A., Turoff, M. (eds.) *The Delphi Method: Techniques and Applications*, pp. 3-12. Addison-Wesley, Reading (1975)

Lund, B.D.: Review of the Delphi Method in Library and Information Science Research. *Journal of Documentation*, 76(4), 929-960 (2020). <https://doi.org/10.1108/JD-09-2019-0178>

Okoli, C., Pawlowski, S.: The Delphi Method as a Research Tool: an Example, Design Considerations and Applications. *Information and Management* 42(1), 15-29 (2004).

<https://doi.org/10.1016/j.im.2003.11.002>

Poirier, E., Robinson, L.: Slow Delphi: an Investigation into Information Behavior and the Slow Movement. *Journal of Information Science* 40(1), 88-96 (2014).

<https://doi.org/10.1177/0165551513506360>

Saunders, L.: The Future of Information Literacy in Academic Libraries: A Delphi Study. *Portal: Libraries and the Academy* 9(1), 99-114 (2009)

Zins, C.: Success, a Structured Search Strategy: Rationale, Principles, and Implications. *Journal of the American Society for Information Science* 51(13), 1232-1247 (2000).

[https://doi.org/10.1002/1097-4571\(2000\)9999:9999<::AID-ASI1034>3.0.CO;2-2](https://doi.org/10.1002/1097-4571(2000)9999:9999<::AID-ASI1034>3.0.CO;2-2)

ATtribution

PPT style adapted from the template provided by slidecoretemplates.com, stock images from unsplash.com and pixabay.com; icons from Thick Icons

Slide 14: Map adapted from the template provided by PresentationGO.com – The free PowerPoint template library