Information Behaviour of Slovenian Researchers: Implications for information services

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Last decades have changed the way scientific information is spread.
Practically all publications are now available online.
There is an evident and rapid trend towards the development of different information behaviour by scientists:
- What information resources they are using, how and when.
Results of a part of extensive survey of Slovenian scientists which investigated their information behaviour (preferences, opinions, use)

We focus on

- Use & preference of information sources,
- Types of information sources used (grey lit.),
- Impact of ICT on information-related activities.
Method & Sample

- Online survey (open Sept 14 – Nov 14; here data till Oct 24 is presented)
  - 18 content questions (eg. about resources they use/prefer, how ICT impacts information gathering, organizing, reading, communicating, writing)
  - 7 demographic questions (eg. age, gender, employment, experience, research area)
- Random sample of active researchers (data from ARRS – Slovenian Research Agency.)
  - E-mail invitation for every eighth (592 individuals)
Basic description of respondents

- 195 respondents / 119 acceptable
- 46.5% female
- Age structure:

<table>
<thead>
<tr>
<th>Age</th>
<th>%</th>
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<tbody>
<tr>
<td>20-30</td>
<td>27.6</td>
</tr>
<tr>
<td>31-40</td>
<td>36.7</td>
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<tr>
<td>41-50</td>
<td>17.3</td>
</tr>
<tr>
<td>51-60</td>
<td>12.2</td>
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<tr>
<td>above 60</td>
<td>6.1</td>
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</tbody>
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Research area (ARRS classif.):

<table>
<thead>
<tr>
<th>Research area</th>
<th>%</th>
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<tbody>
<tr>
<td>Natural Sciences</td>
<td>25.2</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>17.6</td>
</tr>
<tr>
<td>Technical Sciences</td>
<td>16.8</td>
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<tr>
<td>Humanistic Sciences</td>
<td>12.5</td>
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<tr>
<td>Interdisciplinary Research</td>
<td>10.9</td>
</tr>
<tr>
<td>Medicine</td>
<td>10.1</td>
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<tr>
<td>Biotechnology</td>
<td>6.7</td>
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Heavy use of formal resources, BUT also intensive use of grey sources:

- patents, standards, reports (35.3% often/always, 24.2 occasionally),
- dissertations (51.5% occasionally, 25.3 often)
- e-archives, repositories (27.6% often/always, 38.5% occasionally)
They strongly rely on personal contacts

- For acquisition & exchange of information 33.4% often/always, 44.4% occasionally)
- Also for acquisition of resources (23.6% often/always, 47.3% occasionally)
- A lot of contacts & communications are with colleagues abroad
Not enthusiastic with library services

- 41.2% use library occasionally, 35.1% never/almost never, 50% never/\textit{almost never} use ILL
- BUT: 53.5% use OPAC/COBISS often/always; 44.8% often/always start search with OPAC

= all in trend of current scholarly information behaviour
About data curation & use

- YES to have available (71.7%), to provide own data (72.8%)
- BUT second thoughts due to ethical dilemmas (58.1% think it could be questionable)
- Most don’t use it (66.3% never/ almost never)
- Not clear about libraries doing this service (66.7 yes; 42.9 no)
  - Note: there were 2 questions regarding this, hence over 100%
Impact of ICT

- Heavy use of
  - web search engines – general and scholar (77.4% often/always),
  - websites (39.4% often/always, 41.4% occasionally)
  - e-journal sites (61.1% often/aways)

- They like electronic materials:
  - (49.6% prefer e-; 38.1% people cite 81-100% e-resources, 51.3% have over 200 e-resources in personal archive, **most popular way of resource acquisition are e-journals**)
  - BUT: print to read (64% often/always, 25.4% occasionally)
ICT makes easier/harder

- ICT makes easy:
  - searching & acquisition (99%),
  - organizing (83.5%),
  - citation chaining (91.3%),
  - writing (alone 71.9%; in **collabor.** 84.8%),
  - communicating (93.9%)

- BUT: For many ICT makes harder:
  - relevance judgement (23.7%),
  - reading (25%)
Some surprising findings

- They hardly use
  - social networks (84.8% never/almost never), blogs (82.8% never/almost never), forums (64.6% never/almost never),
- Poor use of
  - preprints (50.5% never/almost never), email alerts (37.4 never/almost never), cross-search services (60.2% never/almost never)
- Open-access materials not very popular
  - 58.3% people cite these below 20%

= so, are they not quite typical contemporary scholars?
Age impact: Younger researchers strongly prefer electronic tools, formats, communications

Impact: Employment status, experience, current job

Gender – no impact;

Research area has some impact

- Natural Sciences: use research papers, dissertations, use raw data, cite higher proportion of scientific literature, no print sources, no ILL
- Social Sciences: cite higher proportion of scientific literature
- Technical Sciences: use raw data, use standards, patents
- Humanistic Sciences: use research papers, dissertations, prefer p-sources, cite higher proportion of scientific literature and lower share of e-sources and lower share of open-source materials, not ICT for org.
- Interdisciplinary Research: use e-archives
- Medicine: use websites, use invisible college, ICT for indep. writing
- Biotechnology: use research papers, dissertations, prefer e-sources, ICT for communic. and org.
Researchers are independent & innovative in ways to get & use information

They are often quite similar to general public:
- Intensive use of web search engines and websites as information sources, *preference of e-materials and tools*, want information immediately, happy only with full-text, don’t visit libraries

BUT: They are more concerned with relevance judgement than general public

Use of grey literature is intensive, but dependent on the *academic area and sector*:
- *Technical, natural, humanistic sc., biotechnology*, more *keen* to use GL as the source for their research,
- *Patents and standards used by business sector and technical sc.*
Rethinking of library services relevant to researchers

- Relevant: OPACs (with access to full-text), provision of access to e-journals, setting up e-archives, approach data curation
- Not so relevant: cross-search services, traditional services

- Rethinking of design of information tools to become more **intuitive**
- Co-operation with search engines developers
Thank you!

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