Data literacy in public libraries in Croatia: an empirical study

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Introduction

• Digital transformation – perpetual need for new types of knowledge, skills and competencies
• Data literacy – becoming critical in careers worldwide
• Public libraries & challenging information environment of the third decade of the 21st century
**Data literacy**

- A critical aspect of and foundation for the skills (e.g., computational thinking) required to function in the business, academic, social, and political contexts of the 21st century (Ridsdale et al, 2015)

- A specific skill and knowledge base that enables individuals to transform data into information and actionable knowledge by enabling them to access, interpret, critically evaluate, manage, and ethically use data (Koltay, 2017)
Research study

- February 14, 2023 till March 15, 2023
- Online questionnaire – 14 questions
- Invitations (e-mail) - 188 public libraries in Croatia
- Invitations successfully delivered to 142 public libraries in Croatia
- 82 public libraries responded
  - 58% of the delivered invitations
  - 44% of the total number of registered public libraries in Croatia
- Library representatives/library managers in public libraries in Croatia
90% of librarians who participated (a representative of their libraries) had a degree in social sciences or humanities or a combination of both (none in technical or medical sciences).
Discovering areas of knowledge related to data literacy (multiple answers) (N=81)
Data-related competencies important for library management (N=81) (multiple choices were possible)

- Evaluating data used in a business environment: 69
- Organizing and storing facts: 69
- Ethical use of data and safe use of data: 64
- Decision making based on data: 63
- Understanding data used in a business environment: 63
- Interpreting data: 60
Data life cycle used in daily library practices (N=81) (multiple answers were possible)

- Collecting and describing data: 73 (19%)
- Data storing: 66 (17%)
- Providing access to data: 55 (14%)
- Reuse of stored data: 37 (10%)
- Data creating: 59 (15%)
- Archiving and keeping data: 60 (16%)
- Discovering data and their analysis: 34 (9%)
Employment of a data librarian (N=80)
Skills data librarians should possess (N=81) (multiple answers were possible)

- Analysis of quantitative and qualitative data; 67; 18%
- Critical thinking; 60; 16%
- Working with statistical software; 57; 15%
- Creating and managing metadata; 55; 14%
- Problem solving; 50; 13%
- Data visualization; 49; 13%
- Research support; 44; 11%
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Data literacy and jobs in public libraries (N=78)
(1 - not applicable at all; 5 - highly applicable)

<table>
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<th>Service/Role</th>
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<th>3</th>
<th>4</th>
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<td>Self-check-in and check-out of books</td>
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<tr>
<td>Work with user analysis</td>
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<td>1</td>
<td>8</td>
<td>22</td>
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Activities a data librarian could participate in (N=82) (multiple answers possible)

- Interaction with library users doing research and promotion of services for data management; 62; 18%
- Development of services/infrastructure for data management; 59; 17%
- Development of library services related to data management, archiving, and dissemination; 54; 15%
- Development of policies, procedures, and guidelines necessary for planning services for data management; 52; 15%
- Counseling library users researching how to manage, archive and disseminate research data; 49; 14%
- Training of library users seeking data-related services; 40; 11%
- Counseling library users about legal issues related to data; 30; 9%
- None of the above; 3; 1%
- Counseling library users about legal issues related to data; 30; 9%

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Skills data librarians should possess (N=81) (multiple answers were possible)

- Analysis of quantitative and qualitative data: 67
- Critical thinking: 60
- Working with statistical software: 57
- Creating and managing metadata: 55
- Problem solving: 50
- Data visualization: 49
Ways of education in data literacy (N=82) (multiple answers were possible)

Courses in the Center for permanent education at the National and university library, Zagreb Croatia
During education at university at the Ph.D. level
Webinars on the internet
Courses in libraries organized by someone else
Self-education by reading literature on the topic
Courses at university (graduate level)
IFLA internet resources
Practical knowledge of working with data
Concluding remarks

- Data literacy gaining momentum in the Croatian libraries
- Current citizen science projects in libraries also a great help in introducing and acquiring data literacy
- Library management depends on data processing even more frequently than before
- Improving library services
- Education in data literacy related skills for more librarians needed