

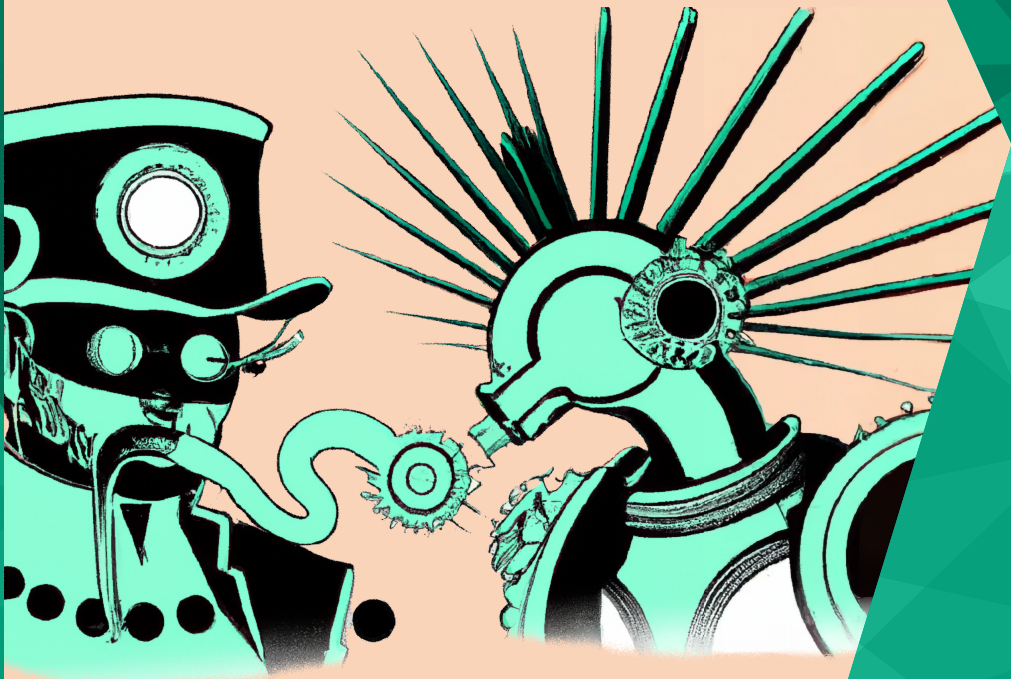


FACULTY OF ARTS
Comenius University
Bratislava

International Conference

Information Interactions 2022

ethical challenges of digital information environment



Book of Abstracts

Editors

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STIMUL 2022

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Information Interactions 2022 – International Conference

ethical challenges of digital information environment

Topics • information ethics, ethics of information behaviour in digital environment, ethics of information literacy, digital ethics, digital literacy • issues of mis/disinformation, hoaxes and other information pathologies in digital environment • data ethics, data literacy, digital access, academic ethics, research data literacy • citation ethics, publishing ethics, academic integrity • ethical challenges of artificial intelligence, user experience, information retrieval, privacy, data protection, information security • values of information, social impact of information research, information creativity • ethical challenges of authorship, ethics of health information and e-health • ethics of knowledge organization, ethics and bibliometric methods in information science • information ecology, information environment, information infrastructures

Objectives • present research results • discuss theory, methodology and practice • present doctoral students' projects • discuss methodology of information science

Content • research papers, PhD. students' research projects – doctoral and post-doctoral workshop

Audience • researchers, doctoral students, computer scientists, practitioners, managers of libraries and information institutions

The conference is organized as part of the research project [VEGA 1/0360/21](#) Social representations of ethical challenges of digital information revolution.

Organizing institutions • Department of Library and Information Science, Faculty of Arts, Comenius University in Bratislava, Slovak Centre of Scientific and Technical Information and University Library in Bratislava.

Programme chair

Prof. PhDr. Jela Steinerová, PhD.

Organization chair

Mgr. Katarína Buzová, PhD.

Venue • Conference Hall, 2nd floor, Slovak Centre of Scientific and Technical Information, Lamačská cesta 8/A, Bratislava and online at video.nti.sk.

Date • 20–21 October, 2022

Linguistic and stylistic editing is responsibility of the author of the abstract.

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univerzitná knižnica
v Bratislave

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Foreword

Dear participants of Information Interactions 2022,

it is my pleasure to welcome you to our international conference in Bratislava, Slovakia. After a two-year pandemic break we are getting together again for the 8th time. This year's topic is focused on **ethical challenges of digital information environment**. We would like to discuss special issues of information ethics in the contexts of digital commons, human information behaviour, information and digital literacy, data literacy and data ethics, ethics of information search, information security, or dis/misinformation in digital environment. Our common interest is to understand, examine and discuss human information interactions and its ethical background, including ethics of the use of advanced information technologies (artificial intelligence).

The objectives of our conference are to present research results, discuss theory, methodology and practice related to information ethics, information literacy and information behaviour in the framework of library and information science and practice of libraries and information services. We have also invited our post-doctoral and doctoral students to join us in a doctoral forum and to present their topics and projects.

In line with our programme, we can articulate the main question for our discussions during the conference: **Which benefits and risks are most significant with regard to work with digital information and digital information technologies in the context of information ethics?** We regard information ethics as a multidisciplinary field of information science, composed mainly of access to (digital) information, privacy, accuracy of information (truth), intellectual property, and community (communication and collaboration). The topics are interconnected mainly by **values of information** for learning, science and research, management, or everyday-life information use.

This year we have changed the place of our conference to the Slovak Centre of Scientific and Technical Information (CVTI SR) as one of the leading information institutions in Slovakia, including support of science and research, open access, digital libraries. CVTI SR is also the publisher of our traditional professional journal ITLib. The Department of LIS, Faculty of Arts, Comenius University Bratislava has always maintained strong collaborative relations

with the CVTI SR. We hope that this collaboration can be fruitful during our conference and in further collaborative projects.

The programme of our conference is divided into two days and 6 sessions. This year we have accepted 19 presentations and included also **online participation** of our international colleagues (Warsaw, Katowice, Prague). The participating countries cover Bosna & Hercegovina, Hungary, Poland, Czech Republic, and Slovakia. We would also like to remember the 100th anniversary of the establishment of the Faculty of Arts, Comenius University in Bratislava.

We also welcome post-doctoral and doctoral students and their presentations in the Doctoral forum. The topics of our doctoral students from the Department of LIS represent main topics of information research in relation to health information and disinformation, but also information ethics and information literacy. The topics of participants from our Department are presented as outputs of our research project **VEGA 1/0360/21 Social representations of ethical challenges of digital information revolution**, including results of a Delphi study.

I would like to thank to the Slovak Centre of Scientific and Technical Information for support and the space for our conference, to the University Library in Bratislava, to all our sponsors and collaborators. I would also like to thank to the local programme and organizing committee, especially to Katarína Buzová, Milan Regec, Jaroslav Šušol and Mirka Pastierová, but also to our doctoral students and master students. I believe that our conference will again give us chance to discuss topics, share knowledge and learn together.

On behalf of the Local Organizing and Programme Committee,

Jela Steinerová

Professor of Library and Information Science,
Comenius University in Bratislava, Faculty of Arts,
Department of Library and Information Science

Reimagining commons for the postdigital age: data extractivism and its discontents

Mario Hibert

Introducing the commons concept in LIS goes along with actions and struggles aiming to achieve social, economic and ecological justice. Since the radical techno-imagination has been stuck on the ideology of platform capitalism, alternatives for a progressive social change needs to be discussed and examined over power relations shaped by data extractivism. This lecture will therefore dissect layers of invisible technological infrastructure (“new extractivism” Joler, 2020) and progressive values of commoning (ecologies of collectively shared non-linear arrangements) actualizing alternative critical concepts along LIS community.

Implosion of neo-liberal globalization reveals a new paradigm of power: data is a new oil. For that reason I will propose understanding of the “digital condition” by inverting the DIKW model in order to explain reverted character of epistemic violence: data extractivism, datafied society, data behaviourism etc. Following the foundations of critical librarianship emerged from questioning library neutrality my proposal is to refocus on questioning techno-social environment that appears more ‘open’, ‘public’ or ‘common’ but nevertheless remains ‘enclosed’. Since the digital technology (invisibly) shapes production of subjectivity and the destruction of the social my intent is to expose how apolitical LIS education (especially in the context of media and information literacy programs) leads to deficit of professional legitimacy. Moreover, having no critical attitude towards monopolistic hold on our imagination brought by adherence to techno-solutionism (Silicon Valley, Californian ideology) we are not able to perceive digital technology as a potent political institution that is transforming other institution. In such a post-democratic turn normalization of disintermediation renders LIS community impotent to reclaim its gatekeeping positions. Dwelling in the discursive vacuum, not dealing with conceptual poverty, LIS community (un)intentionally support its marginalization by data scientists, IT experts, tech entrepreneurs, designers, marketers etc.

In this lecture, first are to be revealed concepts and allegories beyond “smart” narratives disclosing technocratic (and anti-democratic) argument

that “there is no alternative”, a fallacious idea that the informational environment in which we operate must be optimized through control mechanisms alien to us because of its performative invisibility. The second part will introduce the idea of “being post-digital” (referring to G. Lovin’s and N. Rossiter’s understanding of ‘post-digital’ as a process of demystification of ‘digital progress’) in order to resist the language of new media disruption embedded in the platform nihilism. Finally, I will set out the concept of digital commons not just as a model of sharing and participation that outlines a comprehensive alternative to surveillance capitalism but as a “thinking tool” moving toward a radical renewal of democracy by broadening the scope of collective decision-making.

The last argument will go towards asking what is the point of MIL (digital literacy) programs preaching restraint, rationalism, and other forms of offline morals if they are not to tackle critical approaches, attitudes, information ethics and politics.

Keywords: LIS commons, ecological justice, MIL / digital literacy programs, data and digital technologies, information ethics and politics

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From work to interactions: reconstructing modern slavery

Veronika Šulová, Michal Lorenz

The sharing of user data by third parties is such a large-scale practice that there is an entire industry around it. The extent of third-party data sharing was highlighted by Snowden (2019) and the phenomenon has been referred to by various names ever since. Some experts use the expressive term digital or data slavery (Chisnall, 2020; Benyera, 2021). To what extent is it justified to equate the alienation of the labour and personal freedom of slaves with the collection of data traces of our interactions in cyberspace? Is this an overly radical interpretation of data practices or a reflection of a modern form of 21st century slavery? In the following paper, we will focus on the ethical aspects of sharing data to third parties and the question to what extent this label of data slavery is justified or deliberately exaggerated.

Keywords: data slavery, third-party data sharing, big data ethics, conceptual inquiry

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Some thoughts about data ethics

Tibor Koltay

Background

Data ethics is receiving increasing attention in Library and Information Science and Data Science.

Purpose

The purpose of this study is to present the background and some issues of data ethics.

Methodology

To determine the definition and the main characterizing features of data ethics, a literature review was conducted without intending completeness, but touching on some of its less self-explanatory connections. Data ethics is defined by following the 2016 definition of Floridi and Taddeo, positing that data ethics displays interest in moral dimensions and problems, and examines related practices and solutions by refining the approaches known from computer and information ethics.

Findings

The wider context of data ethics includes critical thinking, data culture, and evaluating databased decisions.

A discussion of differences and similarities between ethical codices of IFLA and of Data Science Association portrays a traditional aspect of data ethics, while examining the ethical use of research information systems enables gaining insight into a less self-explanatory connection.

Conclusions

Data ethics is closely tied to data literacy, a complex set of views and skills by itself, involving competencies to collect, interpret, use, data ethically and with integrity.

We experience a growth of new ethical issues, while the earlier ones remain, thus data ethics highlights the need for concentrating on the content and nature of computational operations.

Keywords: data ethics; business data; citizen science; research data; ethical codes; misuse of personal data; moral dimensions; research information systems (CRIS).

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From LIS to DIS: developing a study program for information service designers

Ladka Suchá

Information professionals are specialists who collect, record, organise, store, preserve, retrieve, and disseminate printed or digital information. They are involved in all phases of providing information services to clients. Therefore, knowledge of service design and design thinking is also central to their role (Bell, 2018). Clarke (2019) even argues that the field of LIS is built on a design epistemology and asks provocative questions about whether we should still talk about library and information science or rather library and information design. In the Department of Information Studies and Library Science, we have focused on bridging service design and information science for over 10 years, and in 2022 we developed and received accreditation for a new professional degree program in Information Services Design. In this paper we want to present the background of this new study program, where the intersections between LIS and service design are, and how the design of the new curriculum has been influenced by contemporary design approaches such as transition design (Irwin, 2018).

Keywords: LIS education, service design, designers, information professionals

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Historical development of the conceptualization of information literacy as a journey towards an ethical-social perspective on information behaviour

Michal Černý

The phenomenon of information literacy is undeniably one of the central themes of information science. However, only a few studies have been devoted to researching its history or developing the definition of “information literacy”. The study by Behrens (1994) can be considered systematic, while specific perspectives are offered by Bawden (2008), Meulemans (2002) or Carlsson (2019) and Learning (2019). A comprehensive systematic perspective is lacking. For our study, it will be crucial to follow the perspective of developing information literacy’s social and ethical dimensions.

Paul Zurkowski’s first use of information literacy in 1974 relies on a neoliberal discourse - information literacy serves the individual to succeed in an evolving information society. Similarly, Burchinal (1976), while understanding the topic of information literacy in education, still emphasises its individualistic nature. Owens (1976) remains true to the neoliberal discourse but links information literacy to the concept of citizenship and its performance. It is a private good and a tool for exercising power, but it already has a social-ethical dimension. In contrast, Hamerlink (1976) turns his attention to information users and presents the first ethical aspects of information literacy. Inspired by Freire, Hamerlink argued that the focus should be on the user as a free person whose degree of autonomy depends mainly on the information he or she can handle. At the same time, he begins to see information literacy not as a tool to support industry but as a means to creativity.

Its connection with technology is crucial for understanding information literacy in the 1980s, as Behrens (1994) argues. Horton (1983, p. 14) works with information literacy as an extension of ICT and links it to innovation economics and management. The ACEIT report (1984) follows a similar line of thought. Breivik (1985) links information literacy to a particular value framework carried by the notion of being careful, systematic, and working critically with detail. According to him, an information literate person is a careful and responsible student or worker. Kuhlthau (1987) can abandon the neoliberal and technological discourse and associate information literacy with func-

tional literacy. The goal of information literacy will become an action that is informed by quality information. It is thus one of the first ethically strong emphases in formulating a social-ethical paradigm. ALA (1989) will already link information literacy of the general population to the possibility of preserving a democratic political system and the structure of specific social and information rights. The emphasis is more on the benefit of the individual in the social system than on the good.

Regarding information literacy, the 1990s are characterised by a discourse of survival - Rader (1990) talks about the need to be information literate (which, in his understanding, is a highly technical dimension) to survive in society. Ochs (1991) follows the same conclusion but shows that a new type of literacy is needed, which can be described as information literacy. Ford (1995) points out that the absence of information literacy is a major social and ethical problem for society, which becomes susceptible to manipulation, fake news and lies. The problem is not individual empowerment but a society with those who do not possess information literacy. They cannot participate in the democratic system. Mosley (1998) links information literacy to critical thinking as a prerequisite for academic inquiry. Bruce (1999) says that there is a growing divergence between the demands of companies for information workers and humanistic ideals, and we need to decide which way we want to go - whether to support the ICT work demanded by companies or to emphasise critical thinking and functional literacy associated with schools and libraries.

Bruce (1999) opens up something of a fault line in understanding information literacy as a socio-ethical phenomenon in postmodern society. There, critical information literacy (Tewell, 2015; Bauder & Rod, 2016) or information literacy associated with feminist perspectives (Irving, 2020) may gradually take shape as already explicitly social-ethical conceptions of information literacy that may pursue broader goals than the individual's or a particular corporation's benefit.

Keywords: information literacy, historical studies, neoliberalism, critical theory, critical information literacy, ethics of information

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Ethics in information & digital literacy scales

Małgorzata Kisilowska-Szurmińska

The paper aims to determine if and how ethical issues are surveyed in information and digital literacy scales. Nowadays we are facing increasing unethical behaviour in information sharing and dissemination. The question arises if information researchers consider the level of ethical information and digital skills of different populations, i.e. if – and how – do they survey these issues. This study refers to six scales: IL-HUMASS, ALFINVES, ILSES, New Media Literacy Scale, Internet Skills Scale, and Digital Literacy Scale, and explores the following issues: presence of ethical topics in a questionnaire, their assignment to specific areas/aspects of information or digital literacy (dependent on a scale), detailed specific range or content of questions, potential similarities or differences among the scales. The results will enable determination if quantitative research tools being used in information and digital literacy surveys refer to ethical concerns in a way and scale indispensable in today's world.

Keywords: digital literacy, ethics, information literacy, information literacy scale

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Information creativity as a research subject

Jolanta Szulc

The aim of the article is to answer the question of what information creativity is and what it is used for. In order to investigate the issue, an analysis of the literature on the subject recorded in the following databases was carried out: ERIC, Library and Information Science Abstracts (LISA), Library, Information and Science Technology Abstracts (LIST), Scopus, Web of Science, as well as in other Internet sources. The article is divided into three parts. The first part presents various approaches to information creativity. Information creativity means creating knowledge, which is the most superior form of information (Aydin Rzayeva, 2020). But also, information creativity can be understood as a concept accompanying information education (Dahlquist, 2019).

The second part of the article presents the quantitative and qualitative results of the analysis of the literature on the subject. The first publications on information creativity were registered in the SCOPUS database in 1958 and 1960. The subjects of these publications included the study of differences in the acquisition of information due to sex (Sommer, 1958) and dimensions of creativity, such as the publication rate and the strength of motivation to research in peer assessment (West, 1960). On the other hand, most publications on information creativity are registered in the SCOPUS (146,897), LISA (11,952), and Web of Science (9,647) databases. Thematic categories assigned to these records include: education, educational research, computer science, information systems, management, computer science theory and methods, computer science, artificial intelligence, business, information science, library science. Each of these categories has specific topic.

In the education and educational research category, the following topics were discussed: issues of critical thinking in the preschool class (O'Reilly, Devitt, Hayes, 2022), the impact of coding and robotics education on children's cognitive development skills, language development and creativity (Canbeldek, Isikoglu, 2022), the impact of e-sport on the development of 21st century skills in young people (Zhong, Guo, Su, Chu, 2022), the importance of the university learning environment in connection with university social innovations (Zhou, Zhang, Mou, 2022), the relationship between teachers' online informal learning and innovative teaching and its influencing factors

(Tan, Chen, Yu, 2022) and other. On the other hand, the most publications (on the example of the Web of Science database) were registered as part of the book series: „Communications in Computer and Information Science” (electronic ISSN 1865-0937, print ISSN 1865-0929) i „Procedia Social and Behavioral Sciences” (ISSN 1877-0428).

The third part of the article indicates the contemporary use of the idea of creative information and the related ethical problems. The idea of creative information is widely used wherever we are dealing with problems that do not have one obvious solution or rigid framework. These are i.a. complex issues that require an integrated approach that combines competences in various fields: technology, psychology, design, ergonomics, business, etc. In this area, research is carried out on information resources inspiring creativity and physical spaces for creativity (Meyer, Fourie, 2018), research on creativity techniques, such as: Creative Information System, Creative Support Systems (CSS), Brute Thinking application, application of computer mediation (Mamede, Santos, 2009), as well as research and development of ICT innovative and creative Information and Communication Technologies (ICT) (Aliu, Halili, 2013).

These processes are accompanied by numerous ethical problems. Relationships between problem-solving demands and employee creativity, between individual differences in the proactive personality of employees and professional ethics (Wang, Wang, Xu, 2022) are examined. Ethical questions regarding digital information and communication in the education process are raised, as well as problems of transformation of the education and training system in the context of digital information and communication technologies in an ethical and axiological perspective (Tolnaiova, 2020). The ethical assessment of information in the process of critical thinking is considered, understood as one of the four key factors of the 21st century: communication, collaboration, creativity and critical thinking (Braga, 2019). The ethical use of crowdsourcing is also the subject of research. Crowdsourcing can improve access to knowledge, skills and creativity in a cost-effective way, but it raises a number of ethical dilemmas (Standing, Standing, 2018). Still other ethical problems are related to the creativity of machines, including changes in the concept of creativity related to digital transformation (Marzano, 2021) are examined. The ethical problems of using artificial intelligence technology in solving socio-economic problems, with particular emphasis on algo-

rithmic bias, are also discussed (Kharitonova, Savina, Pagnini, 2021). Finally, creativity in an ethical approach to business is examined (Su, 2014).

Conclusions are presented at the end of the article. Creativity of information, depending on the field, can be understood in different ways. The results of research on the subject literature indicate that information creativity is the subject of research in the field of, inter alia, education, artificial intelligence, psychology, sociology, e-government, business and even artistic creation, science and culture. Of course, it is not about simple information, but rather about creating knowledge, which is the most overarching form of information. Such information creativity makes it necessary to regulate the issue of intellectual property and limitations of information creativity, which is the subject of further research.

Keywords: Information creativity, Information ethics

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The first 5 years of the Hungarian web archiving project - a summary of a PhD. thesis

Márton Németh

I would like to offer a summary of my PhD. thesis: The theoretical and practical fundamental elements of web archiving: The first steps of institutional web archiving in Hungary. The PhD. thesis is focusing on web-archiving issues. By offering a broad overview of theoretical and practical elements of this discipline mainly in a Hungarian context, however in international perspective, the main aim is to facilitate further research and development activities in this field. The thesis offers an introduction to some basic conceptions and major challenges of web-archiving. A contextual analysis is being offered about web archiving related to the library, archive, and museum fields. A brief description of the international context is also described. The core of the thesis has been built on a detailed analysis about the initial conception, professional frameworks, and workflows of web-archiving in the National Széchényi Library, Hungary as the first organized project in that field in this country. The description of major workflow elements, the challenges in collection development and metadata management fields are described together with the international context of the project. A brief overview of main elements of the software and hardware infrastructure, an introduction the challenges in long-term digital preservation context and a brief description of the legal framework together with an outline of the communication conception of the project are also essential elements of this analysis. A whole chapter is focused on the educational context of web archiving in international and Hungarian perspectives. An essential part of the thesis describes the research perceptions in web archiving field by introducing various new sub-disciplines in this context. The thesis offers a proposal of theoretical and practical research activities for future related to the use of semantic microformats.

Keywords: web archiving, PhD thesis, National Library, Centre of Digital Humanities, Group of Digital Philology and Web Archiving, Budapest

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Broadening the horizons of ethics and transparency through open access: paradigm shift or fostering the basic principles of scientific communication?

Matej Harváth

Open Access, and by extension Open Science, encompasses a set of policies and publishing practices that aim to provide free, immediate and least restricted access to the results of scientific knowledge. Advocates of Open Science have long emphasised that the principles of openness can greatly enhance efforts to uphold the highest possible ethical standards in research - particularly in the publication of research results - and to improve the overall transparency of the scientific landscape. In which specific areas and to what extent can Open Access help to maintain ethical standards, and what challenges does this pose concerning publishing in the digital space (online publishing platforms, repositories, Open Access journals and books, Open Data, etc.)? The presentation will show how OA intervenes in the field of publishing and citation ethics as well as in information behaviour in the digital environment in general. The challenges and some of the bottlenecks that Open Science faces in terms of academic integrity will also be discussed.

Keywords: Open Access, Academic integrity, publishing ethics, reproducibility crisis, research transparency

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Cultural aspects, academic ethics and related issues affecting contemporary science

Zdeněk Smutný

Cultural aspects, i.e. the education and adoption of academic and scientific approaches common in a particular region, are increasingly affecting science in the world, both in a positive and negative sense. The paper presents selected publication practices of academics and researchers from different regions that are inappropriate or debatable from the point of view of academic ethics in the Western world. In the contribution, the author draws on his own many years of experience as an academician and editor of a scholarly journal and puts them in the broader context of the ethical behaviour of academicians, the evaluation of research organizations, the problems of citation databases and the rapid expansion of higher education in the least developed countries of the world. The paper does not deal primarily with the issue of plagiarism but with new approaches that academics and publishers apply, and which undermine the essence of scientific activity. These are mainly new predatory activities (Smutný & Řezníček, 2015; Smutný, 2016) that are difficult to detect, buying scientific publications between academics, developing a new kind of cargo science (Novotný, 2000) or collecting citations through peer review. In the end, the current transformation of the Web of Science (2022) citation database, the extension of citation metrics (such as the impact factor) to other subdatabases and the essential role of citation databases in today's academic environment are discussed.

Keywords: academic ethics, citation ethics, experience and practice, publishing ethics, unethical behaviour

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Information behavior of fact-checkers as a basis for designing human-centered AI tools for automated fact-checking

Andrea Hrčková, Róbert Móro, Jakub Šimko, Ivan Srba, Mária Bielíková

We address the suggestions to reinforce collaboration between researchers and practitioners in developing human-centered automated systems for fact-checking. The information behavior, needs and requirements of European fact-checkers were investigated using semi-structured in-depth interviews and a validation survey. As such, we collected 24 responses from 20 European countries.

The findings include the biggest pains of European fact-checkers that would need the support of artificial intelligence and the differences in the pains and needs depending on the location, language group and the size of the organization.

Keywords: fact-checkers, information behavior, information needs, misinformation, disinformation, human-centered AI

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Information security – interdisciplinary dimensions of the field

Jaroslav Šušol

The article sums up selected aspects of the information security topic from the viewpoint of information science. Information security is defined as a discipline and a process of providing protection to information and information systems against unauthorized access or modification of information, and against the refusal of service provision to the authorized users, including all the measures taken or aimed at detecting, registering and preventing such risks. We propose a historical-technological model of information security concept consisting of 3 interconnected levels – media security, information security and data security.

From the information science perspective, it is predominantly pedagogical, psychological and ethical contexts of information security that step up to the fore in the interest of both research and practice in the area. It may include diverse topics, ranging from long-term preservation of digital documents in digital archives, users' privacy protection, or GDPR legislation connected with personal data protection.

The aim of the article is to take a look at the disciplinary structure of the information security field. We assume that the area of knowledge that started predominantly in a technological domain slowly becomes more interdisciplinary as a consequence of intense “socialization” of digital environment. For that purpose, we apply the methods of bibliometric analysis based on the data found in the Web of Science Core Collection database and we identify principal disciplines, terms and developmental trends describing the domain.

Keywords: Information security, interdisciplinarity, bibliometric analysis

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Ethical consequences of information search technology

Mirka Pastierová

Introduction

The presentation brings insight into the state-of-the-art of information search technology and critically analyzes its existing and possible ethical consequences. Information search technology and tools are deeply embedded in everyday and professional life. They have developed from manual retrieval systems available only to niche groups of information professionals to intelligent proactive and adaptive tools that are ubiquitous. We use information search tools when working, studying, cooking, even when socializing with people, they became an invisible part of our lives (Haider, Sundin 2019). Since Google is currently the dominant search engine on a global market and presence of AI and biotechnology in information search is inevitable we need to reconsider possible consequences of search engines on human life and future including ethical concerns.

Methods

We applied a conceptual analysis and a critical approach to answer the following research questions: What is the current situation on the information search market? What are the information search trends and emergent technologies that are possibly transformative? Which ethical issues are problematic relating to information search? What are some of the possible solutions of these ethical problems?

Analysis

Based on our previous research (Pastierová 2020a, 2020b, 2021a, 2021b, 2021c) and following the conceptual analysis we summarize the most important information search technology trends. Critical approach is applied to underline and characterize the most crucial ethical concerns connected with information search technology and tools.

Results

We synthesized an overview of information search trends and ethical problems. Possible solutions to ethical issues are proposed and open questions are summarized.

Conclusions

In our presentation we underline the importance of knowledge of ethical issues present not only in the individual but also social contexts. We outlined some open questions in the concluding discussion.

Keywords: information search, information search technology, information search tools, ethical problems, emergent technologies

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What Can Information Researchers Learn from Information Ethics for Modelling Human Information Behaviour and Information Literacy?

Jela Steinerová

Purpose

The paper aims at analysis of the ethical issues of human information behaviour in digital environment. The main question is, in which ways we can integrate ethical factors of human information interactions into new models of human information behaviour and information literacy. Selected models of human information behaviour and information literacy are analysed focused on the issues of dis/misinformation (Steinerová 2022a, b). Ethics of information and dis/information is considered (Floridi 2013, Bawden and Robison 2020). Topical questions of information ethics are presented (Burgess and Knox 2019, Kelly and Bielby 2016) in a taxonomy of ethical issues of the information interactions.

Methodology

We report on results of a Delphi study on information ethics based on a survey of 19 experts from academia and information organizations in Slovakia and Czech Republic. The ethical factors are analysed and synthesised with the use of the methodology of discourse analysis and concept modelling.

Results

Main results of the study are presented in several original conceptual models which represent ethical challenges of digital information use. The conceptual models are based on three questions of the study, namely main ethical issues in the digital environment, main ethical dilemmas of intelligent technologies and AI, and main values of information in digital environment. Finally, the importance of context (low context, high context), culture and epistemic and social values of information are emphasized.

Conclusions

As a result of the study we present a synthesis in a final conceptual model which includes social rules, intercultural contexts, utility and truth of information.

Originality

We propose to apply value-sensitive design for digital information use (Friedman, Freier 2005) in models of human information behaviour and information literacy. For future we propose that ethical factors should be involved into high contexts of human information behaviour and that we should cultivate information ecologies as part of ethically informed information literacy.

Keywords: ethical factors, information/disinformation, human information behaviour, information literacy, a Delphi study, conceptual models, information ethics

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Ecology and ethics of information literacy

Jakub Fázik

The paper presents the results of a qualitative content analysis of 24 normative documents of information literacy in the field of education (standards, frameworks, curricula) with special emphasis on the aspects of information ethics contained in them. Older documents are designed in the form of competence- and performance-oriented standards framed by the information process and strictly focused on the cognitive domain of information behaviour; ethical aspects of working with information were usually singled out separately and to a limited extent. Newer educational documents overcome this rigid approach – on the one hand, they go beyond the framework of the information process, and on the other hand, they are formulated more freely than competence frameworks or curricula emphasizing the affective domain of information literacy with the natural inclusion of information ethics; precisely the affective dimension of information literacy (attitudes, values, motivations) can be the driving force of ethical information behaviour. The result of the analyses is, in accordance with the ecological approaches to information literacy and information behaviour (Steinerová 2010; 2019), a proposal of a three-dimensional framework, applicable for the design of new educational documents emphasizing the ecology and ethics of information literacy.

Keywords: information literacy, information literacy standards, information behaviour, information ethics, information ecology

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Digital didactics

Annamária Brijaková

The work deals with the issue of digital didactics, its basic definition and characteristics. The author describes the influence of technology on its characteristics and the main differences between traditional and digital didactics. The paper focuses on the role of the teacher in the digital didactic process, describes the models that the teacher can use in this process, and deals with the practical use of digital technologies in didactics.

Keywords: digital didactic, e-learning, digital technologies, education

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Research support services in academic libraries

Kristýna Kalmárová

One of the main tasks of academic libraries is providing services to support research and publication activities of academics (Palmer et al., 2009; Herson & Matthews, 2012). Although there is no binding standard determining the scope of these services, daily practice has shown that libraries can help in various stages of these processes. However, current trends, such as open access or new models of scientific publishing, pose new challenges to both academics and academic libraries (Herson & Matthews, 2012; Steinerová, 2018). According to Lowry et al. (2009), changes in research practice may lead to decentralization and fragmentation of these services, which necessarily leads to rethinking the role of the library in the academic information infrastructure.

The aim of this contribution is to present the current state of knowledge in the field of support of scientific and publication processes by academic libraries, and to describe a research background of an upcoming dissertation study which aims to link the library service portfolio with the research life-cycle, as well as to advocate the role of the library as a part of the university information ecology.

Keywords: academic libraries, research support, services, research lifecycle, information infrastructure, information ecology

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Challenging and ethical issues of information in the context of health

Jakub Zábajník

The paper focuses on the questionable and ethical issues of information in the context of health. In the first part, the author presents findings from the previous analysis of literature related to the topic of his dissertation thesis focused on problematic issues of information in the digital environment (the dark side of information) related to health. He introduces the basic concepts of this field (health information, health information need, health information behaviour, health information seeking behaviour, health information retrieval) and the relationships among them. Several problems that can have a direct impact on a person's life and health have been identified. The author outlines five selected problems: health disinformation and misinformation, health information avoidance, cyberchondria, information overload and low level of health literacy. Attention is also paid to selected ethical aspects of health information and health literacy. Following this background, the second part presents the proposed objectives and methodology of the own research project, which will focus on health information behaviour of secondary school students.

Keywords: health information, health information behaviour, health literacy

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Information literacy of university students in the context of the issue of misinformation in the online environment

Tomáš Mirga

The paper focuses on the issue of misinformation on the Internet in a European scale and the related question of the level of information literacy of university students. The theoretical background presents the decreasing intermediation of information, the increasing role of the user in the Internet environment and the problematic aspects of the available information. The most problematic parts of the information environment are the platforms distributing digital content – especially social media, video viewing platforms, but also search tools. The issue of misinformation has emerged as the most acute in the context of the migration crisis or, more recently, in the context of the COVID-19 pandemic. The seriousness of the current situation is reflected both by the European Commission and by domestic political parties. On the other hand, the issue is proving to be not only technological in nature, but also closely linked to deeper psychological and social issues. Moreover, with the purposeful dissemination of disinformation in the context of hybrid activities, the issue is being taken to multiple levels. It is evident that literacy in the original sense of the word has long been insufficient in the system of digital access to information. There is a need for the acquisition of new competences and skills such as information, media, digital literacy, and the development of critical thinking. The extent to which young people have these competences is questionable, which is linked to the need for specialised training for young people in the field of digital access to information. In addition to the theoretical aspects, the paper also focuses on a forthcoming research project that will be part of the dissertation. The aim of the research will be to determine the level of information and media literacy of university students in the context of the issue of misinformation in the online environment. The research will also focus on identification of information strategies, information horizons, information assessment criteria, personal characteristics, and attitudes of university students. Separately, the paper will discuss the research methods that will be used in the dissertation - experiment, personal interviews, and a questionnaire survey.

Keywords: misinformation, disinformation, information literacy, online environment

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