Cross-cultural information access

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ABSTRACT

Despite the advanced information technology's impact on the extent and availability of digital information, information access is not equally attainable to everyone. The lack of cultural and linguistic diversity in information systems and infrastructure has raised concerns over limited access to digital information, which also harms the information environment. For example, a flood of misinformation and disinformation during the pandemic rendered misrepresentation of cultures and fed the fear of people from different cultures. The "deep learning" revolution has enabled advances in cross-language search technology and in automated translation of content from one language to another, but the lowering of linguistic barriers to information access, in turn, serves to highlight the need for a comparable degree of focus on cultural differences. The proposed panel will discuss cultural and linguistic diversity as manifested in various information systems and infrastructures and review past and current information systems and practices either lacking or supporting cultural and linguistic diversity.

KEYWORDS

Cross-cultural, Information access, Cross-lingual, Knowledge organization, Post-colonial archives, International research data, Information Retrieval, Information Needs

INTRODUCTION

With the advanced information technology enabling access to digital information, the ability to identify, retrieve, and use information becomes even more vital to social, political, and economic advancement. Yet, despite technology's impact on the extent and availability of digital information, information access is not equally attainable to everyone. One factor hindering access to digital information by many is that current information systems and infrastructure generally lack sufficient support for cultural and linguistic diversity. Digital information and information infrastructure lacking cultural diversity, commonly defined to include racial, sexual, organizational, professional, and national heterogeneity, harms quality information and the information environment. For example, a flood of misinformation and disinformation during the pandemic rendered misrepresentation of cultures and fed the fear of people from different cultures. The infodemic we face from a global crisis calls for our attention to information problems at the intercultural level, encompassing diverse nations, languages, and ethnicities.

In recent years, concerns over insufficient consideration of cultural and linguistic diversity in information systems and infrastructures have been raised by both scholars and practitioners, including scientific communities, LAM (libraries, archives, and museums) institutions, and professionals working closely with information systems. Information systems and infrastructures that are vital to the everyday life of transnational users call for researchers' attention on addressing cultural barriers to information access. For instance, Beghtol (2002) proposes the concept of "cultural hospitality" as an approach to improve information systems by providing ethical resource descriptions and access. Cultural hospitality refers to the ability of a system to connect existing knowledge with perspectives, expectations, and assumptions from different cultures and users. While there has been increasing emphasis on involving and presenting multiple cultures in information systems, the abstract and ambiguous concept of "culture" leads to challenges for multiple aspects of information organization and access. For example, Barité (2018) points out how social, political, and religious conditions of different times can all contribute to cultural influences in knowledge organization systems. One other example is the concept of "cultural warrant." Bullard (2017) proposes using warrants, the authority a classificationist invokes to justify classificatory decisions, to study and evaluate classifications, and cultural warrant is one of the critical warrants recognized. However, both Bullard (2017) and Lee (2021) discuss how different warrants may not only complement but compete with one another. Considerations about cultural hospitality may constantly compete with other warrants, such as literary warrant, for prioritization in knowledge organization decisions.

Similarly, recent studies of scientific publishing have pointed out that the use of English as a dominant language can adversely affect participation, collaborations and access to information because the use of English as a second language for publication is an added burden and generates a global gap in science (Hanauer et al., 2019; Ramírez-Castañeda, 2020). Information retrieval systems that lack comprehensive support for multilingual content can render inaccessible materials that some users need to access. For example, lack of multilingual support in American public libraries creates difficulties in finding non-English—and especially non-roman script—materials, not only for immigrants but also for English speakers who study diverse languages (El-Sherbini & Chen, 2011; Lee & Choi, 2019). On the other hand, multilingualism has advanced the practices of information retrieval and representations of cultural heritage. For example, Europeana has provided multilingual support, such as multilingual metadata and automatic translations (Király et al., 2019; Marrero et al., 2021)

The challenges to be addressed extend well beyond the language in which the content is expressed, however. For example, library standards used worldwide bear imprints from Western, and often North American, knowledge structures, raising concerns over harms from cultural hegemony (McKennon, 2006). Cultural influences are present in the knowledge organization process in many forms, any or all of which can impact information access. Studies comparing knowledge organization systems can identify prominent manifestations of culture and advance our understanding of cultural influences in information systems (Choi, 2018). Global information systems will limit their impact when those systems are not designed to serve local needs, which would require understanding of cultural contexts that distant developers often lack (Chu et al., 2019). To address limitations of information systems resulting from deficiencies in cultural contexts, information researchers attempt to bring global perspectives to information practices. For example, discussions of information and knowledge organization in cultural heritage data at a global scale captured the current information practices in the domain of digital humanities across nations and cultures (Golub & Liu, 2021).

In information science, there has long been research on multilingual information discovery (Marrero et al., 2021). Recent advances in cross-language search technology and in automated translation of content from one language to another from the "deep learning" revolution are key enablers, of course, but the lowering of linguistic barriers to information access in turn serves to highlight the need for a comparable degree of focus on cultural differences. Indeed, language and culture are in some sense inseparable, with some cultural differences manifested through linguistic variations (Sun et al., 2021), so addressing either challenge in isolation is at best imperfect. Moreover, culture is not static, nor is language, so these are not problems to be solved once, but rather challenges to be embraced and addressed on an ongoing basis. We see this panel as one part of that ongoing discussion. The panel will discuss cultural and linguistic diversity as manifested in various information systems and infrastructures and review past and current information systems and practices either lacking or supporting cultural and linguistic diversity.

PANELISTS AND THEIR CONTRIBUTIONS

This panel brings together researchers to shed light on the concerns and issues in cross-cultural information access. The panelists have worked on a broad range of topics related to information access across cultures. This panel provides a space for the participants to share research ideas, articulate challenges that merit further investigation, and reflect on the approaches to address the identified issues. Specifically, the panelists will present the following topics:

Intercultural warrant and ontology localization

Dr. Inkyung Choi is a teaching assistant professor in the School of Information Sciences at the University of Illinois Urbana-Champaign. Her research interests are knowledge organization, classification theory, ontologies, resource description, metadata, and linked data. Dr. Choi takes a comparative approach and applies a mixed method study to investigate in what ways a globalized knowledge organization (KO) system can be adapted into a culturally different regional environment and what are the impacts of sociocultural factors on the adaptation of the system. In this session, Choi will share her investigation on how the notion of cultural warrant is applicable to ontology. There have been a considerable number of scholarly works on 'Ontology localization' which aims to produce multilingual/multicultural ontologies (Mejía et al., 2012). Her intention with the current investigation on ontology localization is to review theoretical, methodological, and empirical research focusing on cross-cultural communications beyond translation.

Describing cultural events, identities, and objects

Dr. Wan-Chen Lee is an assistant professor and a member of the Knowledge Organization Research Group at the School of Information Studies, University of Wisconsin-Milwaukee. Her research interests are knowledge organization, culture and resource description, classification theory, and metadata. Lee is particularly interested in the challenges and considerations of inclusive data work. She addresses the ethical issues, interoperability concerns, and global-local tensions in cataloging and classification. She also studies the cultural stewardship of, and access to, multimedia resources. In this panel, Lee will present cases of describing cultural events, identities, and cultural objects in information systems. She will break down the layers of cultural influences embedded in the knowledge organization process, and highlight the challenges observed.

User perspectives of post-colonial archives for open dialogues

Ying-Hsang Liu, Ph.D. is a senior researcher at the Department of Archivistics, Library and Information Science, Oslo Metropolitan University in Norway. His research program lies at the intersections of information retrieval, knowledge organization, and human information behavior. His recent publications include a co-edited book, "Information and Knowledge Organisation in Digital Humanities: Global Perspectives" (https://doi.org/10.4324/9781003131816) by Routledge. Drawing from a user study of archival users in a research project, Polyvocal Interpretation of Contested Colonial Heritage (https://picch-project.org), he will discuss how the description of archival material created in a colonial mindset can be re-appropriated and re-interpreted critically through a dialogue between the archives and a variety of users.

Global access vs local access: observations from open science and open data

Hsinliang Chen, Ph.D., is Chief Library Services Officer and Professor at Philadelphia College of Osteopathic Medicine. His research interests are user studies, open science, research data management, scholarly communications, and academic library services. He will present key observations on international research data portals managed by academic libraries.

Supporting access to text and spoken word materials in unfamiliar languages.

Douglas W. Oard, Ph.D., is a Professor in the College of Information Studies (the iSchool) and the Institute for Advanced Computer Studies (UMIACS) at the University of Maryland (USA). He has rich experience with the design and evaluation of systems for cross-language information retrieval and information retrieval for spoken word collections. In this session Dr. Oard will address both the capabilities and the limitations of these technologies.

Culture-specific information needs of transnational individuals

Chi Young Oh, Ph.D. is an Assistant Professor of Information Studies at the Department of Computing, Information and Mathematical Sciences, and Technology at Chicago State University. His research aims to gain a deeper understanding of people's interaction with information and technology in everyday life, particularly for their adjustment to a new environment and mental and physical health management. In this session, Dr. Oh will discuss the culture-specific local information needs of transnational individuals, such as international students and immigrants, during their adjustment to new social and cultural environments.

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