How is Image Seeking and Use Studied: Theoretical Models and Research Methods

Krystyna K. Matusiak  
Department of Research Methods & Information Science  
University of Denver  
krystyna.matusiak@du.edu

Abebe Rorissa  
Department of Information Studies  
University at Albany  
arorissa@albany.edu

Dan Albertson  
School of Library and Information Studies  
University of Alabama  
dea@ua.edu

JungWon Yoon  
School of Information  
University of South Florida  
jyoon@usf.edu

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ABSTRACT
The digital revolution is associated with the proliferation of visual resources and with the increasing use of images in teaching, scholarly activities, communication, and everyday information practices. Visual information seeking and use is a growing area of research in information science. The panel discussion will focus on theoretical and methodological approaches to studying how users seek, select, apply, and organize visual information in a range of information and communication practices. The discussion about theory and research methodologies will be complemented by an example of an empirical study and an inquiry into implications of social media for image use research. The panel will contribute to a better understanding of the current state of image research and will engage the scholarly community in a debate about research methodology and theory development.

Keywords
Image seeking, image use, visual information seeking, use studies, research methodology, theory

INTRODUCTION
Image seeking and use represents a growing area of information science. Researchers are employing empirical research and diverse methodologies to study users in multiple domains. Visual information seeking is recognized as a distinct category in information behavior research (Albertson, 2015). Image searching and query formulation have been the focus of numerous studies (Chen, 2001; Choi, 2010, 2013; Jörgensen & Jörgensen, 2005). Advances in digital technology have contributed to the proliferation of visual resources and the increasing importance of images as a mode of knowledge representation. In addition, the influx of visual resources has created new possibilities for research, teaching, and communication in an environment that has traditionally favored text as a source of information and knowledge (Elkins, 2007).

Images have been widely adopted in scholarship, pedagogy, and daily activities (Matusiak, 2013; Yoon, 2011). The use of visual information is pervasive and the impact has stretched far beyond professional and commercial domains, to entertainment, healthcare, and personal information practices. Users interact with images in digital collections and in a social media environment where they often participate in tagging as a form of information organization, knowledge contribution, and social engagement (Beaudoin, 2007; Matusiak, 2006; Rorissa, 2010; Trant, 2006). Images are used in social contexts and informal communicative practices (Snyder, 2014).

The purpose of this panel is to present current research on image seeking and use and to discuss research methodology and conceptual as well as theoretical models. As the research in visual information grows and matures, the scholarly community needs to discuss the selection of research methods and the development of theoretical frameworks. Debating the uniqueness of visual information seeking and exploring its relationship to existing information behavior models is essential to advancing image research. The panel discussion will be situated in the context of empirical research on the use of images in social network environments and will be conducted in light of the panelists’ research on theory and methodology.
**THEORY IN VISUAL STUDIES**

Theoretical frameworks and models vary in their forms and applications; some are rudimentary, while others are comprehensive and all encompassing. Theories are developed, tested, and used in every imaginable field of study and research (McKechnie & Pettigrew, 2002). Most theories and models serve as overall frameworks and interpretive tools in research, but are also used in explicating practical problems. However, their nature as well as the role in understanding a particular problem or field of inquiry is still being debated, especially in applied disciplines (Hannay, Sjøberg, & Dybå, 2007). Information science and research in image seeking and use are not exceptions to this rule. There is a need for continued debate with respect to the role played by theories and models in LIS research in general, and in image seeking and use research in particular. To facilitate such a discussion, Dr. Rorissa will provide some historical background on the use of theory in LIS research as well as an overview of the various types of theoretical frameworks and models used in image research.

**RESEARCH METHODOLOGY IN IMAGE SEEKING AND USE**

Research methods employed in empirical studies of visual information seeking and use yield rich data about user needs and actions in the context of image seeking activities (Albertson, 2015). As part of the panel presentation, Dr. Matusiak will report on the findings of a content analysis study that examines empirical research of image seeking and use. The research was published in library and information science literature between 2005 and 2014. The panelist will discuss the use of different research designs and data collection techniques and will explore the relationship between the research methods and the data gathered about user populations, different domains, and types of information behaviors in visual contexts. The findings of Matusiak’s study indicate that that research of visual behavior focuses on image searching and adopts primarily quantitative approach with high use of experiments and surveys. A smaller number of qualitative studies investigate the use of images in academic, professional, and personal activities. Surprisingly, visual research methods were rarely used to capture, analyze or report data in the examined sample.

Following, Dr. Albertson will discuss experimental research within visual information seeking including a set of search experiments that examined the influence of different factors on searching and browsing video collections. Findings from these experiments showed that as situational and user factors change, general tendencies in behaviors or actions of users fluctuate with regards to searching, browsing, and assessment of video. Dr. Albertson's presentation will incorporate further discussion of research methods as applied in visual information seeking studies as guided by common information seeking stages, such as need formulation, action, assessment, and process conclusion.

**EXAMPLE OF AN EMPIRICAL STUDY**

**Use of images in a social network environment**

With the development of digital technologies, it has become much easier to use images as means of communication. People use images to exchange information and to convey emotions, with the intuition that visual information will reduce the communication gap (Snyder, 2014). Dr. Yoon will discuss the implications of social media for image use research. In social network environments, people often make use of images for facilitating their communications with others. Social network environments provide opportunities to empirically examine in which contexts people use images and how people use images for conveying messages. Dr. Yoon conducted a content analysis using the dataset of Boston marathon bombing-related Twitter messages with embedded images. With the brief report of findings on how images are utilized in the context of Twitter messages, she will discuss potentials of social media for understanding image seeking and use research.

**PANEL STRUCTURE**

In the first part of the session, the panelists will deliver brief presentations on the role of theory and research methodology in order to provide the audience with some background and context. Next, audience members will be invited to engage in small group discussions to reflect on their own research and experience in searching and using images. The participants will be encouraged to share the research methodologies they apply in their own studies. The moderator and panelists will serve as facilitators of small group discussions. In addition, the participants will be asked to address the following questions:

- What types of research design and methods help in gaining insight into user information behavior in seeking and using images? What are some unique features of research methodology adopted for studying behavior of image users?
- What user populations and domains need to be studied in visual information research?
- What areas and opportunities do social media applications offer for image research?

At the end of the panel session, the panelists will share the ideas from small group discussions and address the questions raised by the participants. Researchers and professionals whose work revolves around visual information seeking and the development of image collections will benefit from the panel’s presentations and discussion.
Panel Timeline

- Introductions (Moderator) – 5 min
- Brief presentations (Panelists) – 50 min
- Small group discussions – 20 min
- Summarizing ideas from the group discussions and conclusions – 15 min (Panelists).

Panel Participants

**Krystyna K. Matusiak** (panelist)
Dr. Matusiak is an Assistant Professor in the Department of Research Methods & Information Science, Morgridge College of Education, University of Denver. Her research interests include digital library development and evaluation, indexing and retrieval of images, information seeking behavior, and use studies. She is a current chair of SIG VIS (The Special Interest Group for Visualization, Images, and Sound) of Association for Information Science and Technology (ASIST). [krystyna.matusiak@du.edu](mailto:krystyna.matusiak@du.edu)

**Abebe Rorissa** (panelist)
Dr. Rorissa is an Associate Professor in the Department of Information Studies, University at Albany. As a multidisciplinary scholar, his research interests include multimodal information organization and retrieval, measurement and scaling of users’ information needs and perceptions, and impact of information and communication technologies (ICTs). [arorissa@albany.edu](mailto:arorissa@albany.edu)

**Dan Albertson** (panelist)
Dr. Albertson is an Associate Professor in the School of Library and Information Studies, University of Alabama. His primary research interests include information retrieval and human information interaction with particular emphasis on digital video. These interests intersect multiple areas of research, such as interface design, human-centered computing, and information management. [dea@ua.edu](mailto:dea@ua.edu)

**JungWon Yoon** (panelist)
Dr. Yoon is an Associate Professor in the School of Information, University of South Florida. Her research interests include image representation and retrieval, user behaviors with images, social informatics and social media, and information behaviors of diverse populations. [jyoon@usf.edu](mailto:jyoon@usf.edu)

**Jeremy L. McLaughlin** (moderator)
Jeremy L. McLaughlin is the Chair of the ASIS&T Special Interest Group for Arts and Humanities, a MLIS Candidate at San Jose State University, and a Research Solutions Specialist at ProQuest. [jeremy.mclaughlin@sjsu.edu](mailto:jeremy.mclaughlin@sjsu.edu)

REFERENCES


