

## Chapter 38

# Snacking Around the World: Evolving an Inductive Image Categorization and Research Query Approach for Image Sets From Social Media

**Shalin Hai-Jew**

*Kansas State University, USA*

### ABSTRACT

*Social media platforms enable access to large image sets for research, but there are few if any non-theoretical approaches to image analysis, categorization, and coding. Based on two image sets labeled by the #snack hashtag (on Instagram), a systematic and open inductive approach to identifying conceptual image categories was developed, and unique research questions designed. By systematically categorizing imagery in a bottom-up way, researchers may (1) describe and assess the image set contents and categorize them in multiple ways independent of a theoretical framework (and its potential biasing effects); (2) conceptualize what may be knowable from the image set by the defining of research questions that may be addressed in the empirical data; (3) categorize the available imagery broadly and in multiple ways as a precursor step to further exploration (e.g., research design, image coding, and development of a research codebook). This work informs the exploration and analysis of mobile-created contents for open learning.*

### INTRODUCTION

In a common conceptualization of the different phases of the World Wide Web, Web 1.0 was about the Read Web, Web 2.0 as the Read/Write Web or Social Web (with users writing to the Web by sharing contents socially), and Web 3.0 is the machine-readable Web, which enables computers to exchange data in an automated way via web services. At every stage, new technological affordances have enabled people to interact with each other and with each other's data in new ways. In parallel with these changes, more

DOI: 10.4018/978-1-7998-9020-1.ch038

and more people have been going online. According to Internet Live Stats, there are 3.3 billion Internet users in the world as of late 2015. An estimated 74% of all Internet users also use social networking sites (“Social Networking Fact Sheet,” January 2014). By 2016, it is estimated that there will be some two billion social network users globally (Bennett, 2013). With so many people communicating online, social media platforms are rollicking spaces for various types of research.

With the wide availability of publicly-released imagery from content-sharing social media platforms (and other types), researchers have access to an abundance of information-carrying still images for their potential work. However, in the research literature, there is little in the way of non-theoretical approaches for organizing and coding such visuals for research applications. Having a systematic way to summarize image set data may be useful not only for data organization purposes but to potentially enhance research design, image coding, and the creation of a research codebook. Sets are simple groupings of objects, and new objects may be evaluated as to whether they belong in a set or not (a Boolean “true” or “false”). The basic rules of set-making are simple: the rationale for the set building should be clearly defined, and the sets themselves should be sufficiently comprehensive to include all potential members into one mutually exclusive category or another. To explore how this might work, one image set was extracted from Instagram, and the images were lightly analyzed to ultimately test three hypotheses.

**Hypothesis 1:** From a sufficient topic-based image set from social media, there will be emergent natural categorical breaklines that may be inductively observable by researchers (without *a priori* reference to theoretical frameworks).

**Hypothesis 2:** From a sufficient topic-based image set from social media, there will be some research questions that may be inductively and inferentially extracted by researchers.

**Hypothesis 3:** For research analysts using imagery from social media platforms, exploring some of the available imagery through categorization may enhance the work of research design, image coding, and developing a research codebook.

The first hypothesis is a precondition for inductive and emergent analysis of imagery. An underlying assumption is that digital images are socially created communications from people to people, and in that interpersonal dynamic, receivers of the image data may be culturally trained to identify meaning-based image clusters. A “breakline” is conceptualized as apparently natural points of separation or differentiation between image objects. The second hypothesis offers a kind of reverse engineering from data to potential askable questions. The third hypothesis is a broadscale one that encapsulates the first two and underpins the entire chapter. It is included here because it will need to be revisited once this initial exploration is complete.

To test these hypotheses, a real-world dataset of nearly 700 images and another of over 900 images were extracted from the Instagram image-sharing social media app in December 2015. The topic selected—based on convenience and inherent (apparent) simplicity—was #snack. The use of a hashtagged topic would mean that there would not be one “owner” of a social media account that would be the one sharing all the images; a diversity of voices would be enabled. The use of the #hashtag by whomever posted the image would indicate the users’ sense of the particular topic (although multiple hashtagged labels may be applied to one image). This topic is something that people can relate to, as the practice of snacking likely cuts across geographies and cultures. [Some researchers have suggested that Instagram “is known to have high rates of photos that contain geotags” (Souza, de Las Casas, Flores, Youn, Cha, Quercia, & Almeida, 2015, p. 223), but that assertion was not directly attributed in the source.] Snacking

30 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/snacking-around-the-world/283001](http://www.igi-global.com/chapter/snacking-around-the-world/283001)

## Related Content

---

### Web 2.0 and E-Discovery

Bryan Kimes (2009). *Social Software and Web 2.0 Technology Trends* (pp. 68-78).

[www.irma-international.org/chapter/web-discovery/29279](http://www.irma-international.org/chapter/web-discovery/29279)

### A Study on the Environmental Campaigns in Traditional and Social Media

Sunitha Kuppuswamy (2018). *International Journal of E-Politics* (pp. 29-47).

[www.irma-international.org/article/a-study-on-the-environmental-campaigns-in-traditional-and-social-media/199068](http://www.irma-international.org/article/a-study-on-the-environmental-campaigns-in-traditional-and-social-media/199068)

### Perception and Digital Media in India

Amit S. Rai (2012). *International Journal of E-Politics* (pp. 36-54).

[www.irma-international.org/article/perception-digital-media-india/73699](http://www.irma-international.org/article/perception-digital-media-india/73699)

### Internet Regulation and Online Censorship

Nikolaos Koumartzis and Andreas Veglis (2014). *International Journal of E-Politics* (pp. 66-81).

[www.irma-international.org/article/internet-regulation-and-online-censorship/120199](http://www.irma-international.org/article/internet-regulation-and-online-censorship/120199)

### Post-Truth: Hoaxes, Misinformation, Trust and Reputation in the Network Society

Luciano Paccagnella (2018). *International Journal of E-Politics* (pp. 1-13).

[www.irma-international.org/article/post-truth/219257](http://www.irma-international.org/article/post-truth/219257)