
Leveraging Celebrity Fandom for Devising ICT Support to Information-Seeking Needs

Marisol Wong-Villacres

School of Interactive Computing, Escuela Superior Politecnica del
Georgia Institute of Technology Litoral
lvillacr@gatech.edu lvillacr@espol.edu.ec

Betsy DiSalvo

School of Interactive Computing, Georgia Institute of Technology
Georgia Institute of Technology neha.kumar@gatech.edu
bdisalvo@cc.gatech.edu

Neha Kumar**Abstract**

Despite the rapid penetration of mobile technologies around the world, underserved groups still struggle to participate online in ways that can transform their lives. In this work we draw from a line of work that advocates to capitalize the engagement of underserved groups with entertainment-oriented content to devise forms of achieving other developmental goals. We propose to conduct a field study in Ecuador to explore the information-seeking practices of lower middle-class Ecuadorians participating in Instagram-based celebrity fandoms. This study will provide an account of the role of social media in how underserved groups continuously and dynamically seek information. The results of this study will inform opportunities for sustainable technology-based interventions that support the information-seeking needs of those living in resource-constrained contexts.

Author Keywords

ICT4D; entertainment; social media; information-seeking

ACM Classification Keywords

H.5.m [Information interfaces and presentation (e.g., HCI)]:
Miscellaneous

Paste the appropriate copyright statement here. ACM now supports three different copyright statements:

- ACM copyright: ACM holds the copyright on the work. This is the historical approach.
- License: The author(s) retain copyright, but ACM receives an exclusive publication license.
- Open Access: The author(s) wish to pay for the work to be open access. The additional fee must be paid to ACM.

This text field is large enough to hold the appropriate release statement assuming it is single spaced in a sans-serif 7 point font.

Every submission will be assigned their own unique DOI string to be included here.

Introduction

Mainstream digital technologies, such as social media, can enhance people's opportunities to access meaningful information on key topics such as education, work and health [4, 13]. However—and despite the rapid penetration of mobile technologies around the world—underserved groups still struggle to participate online in ways that can transform their lives [15, 21, 8]. Differences such as race, class, gender and geography have a great impact in the technology people can access [29, 21, 26]. More importantly, such intersecting axis of differentiation also perpetuate disadvantages in the way these groups seek and make sense of digital information [11, 8, 26, 21].

Digital leisure and entertainment in social media have long been identified as key genres of online participation for underserved groups [1, 5, 14, 13]. Such interest-driven forms of participation open the opportunity for deep engagement with a community, which in turn leads to the development of a type of cultural capital [26] that could be leveraged towards effective information-seeking practices. However, the relationship between such rich online interactions and information-seeking practices has remained unexplored [26, 1]. Rather, more emphasis has been given to studying and supporting utilitarian tasks such as assessing how scalable systems can alleviate poverty of information in the realms of health or education [5, 17]. Payal Aora et al., as well as Kentaro Toyama argue that looking at how underserved groups engage with entertainment-oriented content can help us devise ways for capitalizing such "fun" to achieve other developmental goals [1, 5].

This proposal answers their call by conducting a field study in Ecuador that explores the information-seeking practices of lower middle-class Ecuadorians participating in Instagram-based celebrity fandoms. Based on previous

work on modeling and further understanding information-seeking behavior [12, 24, 25], we seek to answer the following research questions :

- *RQ1* What processes do lower middle-class Ecuadorians participating in Instagram fan pages put in place to devise information-seeking strategies for conducting celebrity fandom activities (e.g., obtaining images and videos from the celebrities they follow)?
- *RQ2* How do participants manage failure to get the information they are seeking?
- *RQ3* What situations prevents participants from managing failure?
- *RQ4* How do participants juggle different communication strategies—including offline interactions—and social media platforms to achieve their information seeking goals?
- *RQ5* What aspects of participants' information seeking practices can we leverage to design technological systems that support the information seeking needs of underserved communities?

Answering these questions will allow a more holistic understanding of the empowering uses underserved groups give to social media. Moreover, this study will provide an account of the role of social media in how underserved groups continuously and dynamically seek information. As a result of this study, we will devise opportunities for sustainable technology-based interventions that support the information-seeking needs of those living in resource-constrained contexts.

Related Work

This proposal responds to the need of devising better information-seeking support for underserved groups. We, thus, situate this research in studies of information-seeking on social media, and the design of information-seeking support.

Social Media and Information-seeking

Information seeking is a sensemaking process where a person constructs meaning from information in order to respond to a need or gap in knowledge [12]. Information seeking is not a single reference incident, but a series of encounters with information within a space of time, that is dependent on social context [3]. Online social media can make it easier for users to reach out to a large number of friends, leading people to use them to seek information from their social connections [20]. Work on Computer-Supported Collaborative Work (CSCW) has focused on how people seek and make sense of health-, and crisis-related information using social media [6, 23, 27]. However, most of the work on the area has focused on studying online interactions happening in one platforms only, often microblogging sites. Further, much of this research depends heavily on what social media use renders visible. Authors such as Wulf et al., have stressed the relevance of looking at how users straddle between online and offline interactions when seeking information so as to have a more complete picture of the role of technology in this endeavor [28]. Drawing on the notion of multiplex approaches for understanding collaborative environments [10], we propose to expand previous work on social media and information seeking by looking at the information ecology Instagram users resort to when attempting to solve problems related to their fandom practices. This includes an examination of the role of offline interactions in such ecology (RQ4).

The work on social media and information seeking has indeed informed how people come together to solve problems. However, this work has mainly focused on middle-class populations living in resource-rich settings. Work on underserved groups and technology adoption has looked at other type of problems; mostly related to lack of access and weak information management practices [8, 16, 21, 29]. It has been established that digital inequities limit how these groups access and seek information; they tend to rely on mobile usage, which in turn drives them to focus on minimal search-based interactions and keeps them from engaging in more creative activities [21]. However, studies have also indicated that mobile users tends to prefer to access information for leisure and entertainment activities[16]. Based on these observations, studies in Information and Communication Technology for Development (ICTD), have recently proposed to expand the focus of study to the activities underserved groups perform in the realm of digital leisure and entertainment [1, 5]. Arora et al., for example, claim such new focus will provide a more holistic view of technological use by encompassing both experiential and purposive elements of ICT adoption. Further, they argue that understanding how underserved users adopt technology based on their own interests is key for capturing the ingenious strategies this population put in place to make technology part of their everyday lives. Following Kentaro Toyama suggestion on how to leverage "fun" for development, we look at how fandom practices stemming from Instagram fan pages can inform the design of information-seeking support for underserved groups via technology.

Particularly, we draw from the Information Search Model proposed by [12], that emphasizes sensemaking as the basis for understanding information seeking, and from Wang's studies on information seeking failures [24, 25], to study how lower middle-class Ecuadorians seek celebrity-related

information.

Designing Support for Information-seeking needs

Both the fields of Information Management and ICTD have made efforts to devise ways for supporting information seeking activities. In their study on failures during information seeking, Wang suggested mechanisms that digital technologies should take into consideration for preventing failure [24]. In ICTD there have been many mobile-based interventions to push information to underserved communities, for topics such as agriculture [2, 18] and maternal health [19]. Although some of these initiatives have been successful, ensuring sustainability has always been an issue [2]. Natarajan et al. have argued that the problem lies in the emphasis of these initiatives to push information rather than "strengthening and responding to the pull of their information needs"[17]. In line with their view, we propose to first understand people's information practices to then inform the design of future technologies. Further, we propose to use participatory design activities to devise how information seeking behavior in one context—in this case, entertainment—, can inform practices in other realms such as health, work and education.

Research Design

In order to answer the aforementioned questions, we will conduct a situated study in Guayaquil, Ecuador that relies on qualitative approaches. We focus on Ecuador because this country exhibits a growing penetration of mobile technologies and Internet access [7]. Further, Ecuador has a growing local showbiz that operates chiefly on Instagram. This has led to a burgeoning presence of fan pages for local celebrities in Instagram.

The study will be divided in two stages. The first stage seeks to understand information-seeking practices. The

second stage focuses on deriving design guidelines that can be useful for supporting information-seeking needs in realms outside digital leisure. For the first stage we will first observe the digital interactions taking place in Instagram fan pages. For this purpose we will choose up to three celebrities—those with a large number of followers and Instagram fan pages—and conduct our observations on the fan pages that support them. Following Wang et. al and Kuhlthau, we will focus our observations on posts and comments that suggest sensemaking moments in which participants are actively involved in finding meaning within a personal frame of reference [12, 24]. This will also entail observing information that suggests they failed at obtaining or making sense of the information they needed. We will then recruit two types of participants: the administrators of Instagram fan pages, and the users who participate in those pages. Participants will be recruited via snowball and purposive sampling so as to minimize recruiting individuals whose profiles are too similar to each other. Recruitment will continue until reaching data saturation. Participants will be contacted via direct message on Instagram. We will verify participants' socio-economic status through a group of questions on their level of education, and the resources they have access to.

Via semi-structure interviews we will explore: (*RQ1*) the different process participants follow to define information seeking strategies that allow them to conduct fandom activities, (*RQ2*) the failure management strategies participants leverage to obtain the information they are seeking, (*RQ3*) the situations that prevent participants from managing failure, and (*RQ4*) the different communication strategies—including offline interactions—and social media that fan page users harness to achieve their information seeking goals. Our questions on the topic will be guided by our previous observations.

To further understand failure management and the information ecology participants rely on, we will recruit a subgroup of 20 of these participants to conduct think-aloud activities. We will ask participants questions about recent events in the lives of the celebrities they follow and support. We will then ask participants how they would solve the problem, while explaining their thinking process. This will enable us to see in action the different properties of each communication strategy or social media uses, as well as to identify the types of support that could improve their information-seeking process.

The data collected will be analyzed using a Straussian grounded theory method [22] that allows theories to emerge from the data [9]. We will identify trends that describe the phenomena discovered in the data. An iterative analytical process will allow us then to generate themes that will be reduced over time, and that will lead to the findings of the first stage of this study.

The second stage will entail participatory design activities. The goal will be to derive design guidelines for the design of technological systems that support the information seeking needs in topics such as health and education for underserved communities in Ecuador. The findings from the first stage will inform technology-based activities that can be conducted with participants so as to derive the needed design guidelines. For this purpose we will recruit approximately 30 participants from underserved communities via collaboration with non-governmental organizations. We will then invite them to three sessions of participatory design activities that will seek to better understand the applicability of the previous findings to other information-seeking realms such as health, work and education. We choose that number of participants and sessions to minimize the impact of losing participants over time, as well as to minimize

the possibility of participants withdrawing the study do to its length.

The results of the activities will then be analyzed to derive design guidelines.

Broader Impacts

This work helps identify more sustainable and effective opportunities for collaborative technologies such as social media to support the information-seeking needs of underserved groups. More specifically, this research can expand existing knowledge on how ICTs can be designed to support how members of underserved groups already access and make sense of digital information. Ultimately, by enabling the design of empowering ICTs for information-seeking, this research can augment the opportunities of underserved groups to make sense of key information for improving their everyday lives.

REFERENCES

1. Payal Arora and Nimmi Rangaswamy. 2013. Digital leisure for development: Reframing new media practice in the Global South. *Media, Culture & Society* 35, 7 (2013), 898–905.
2. Savita Bailur. 2007. The complexities of community participation in ICT for development projects: The case of “Our Voices”. In *Proceedings of 9th international conference on social implications of computers in developing countries*.
3. Stephen P Borgatti and Rob Cross. 2003. A relational view of information seeking and learning in social networks. *Management science* 49, 4 (2003), 432–445.
4. Federico Cabitza, Angela Locoro, Carla Simone, and Tunazzina Sultana. 2016. Moving Western Neighborliness to East?: A study on Local Exchange in

- Bangladesh. In *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*. ACM, 1766–1776.
5. Padma Chirumamilla and Joyojeet Pal. 2013. Play and power: a ludic design proposal for ICTD. In *Proceedings of the Sixth International Conference on Information and Communication Technologies and Development: Full Papers-Volume 1*. ACM, 25–33.
 6. Munmun De Choudhury, Meredith Ringel Morris, and Ryen W White. 2014. Seeking and sharing health information online: comparing search engines and social media. In *Proceedings of the SIGCHI conference on human factors in computing systems*. ACM, 1365–1376.
 7. Instituto Nacional de Estadísticas y Censos. 2016. *Tecnologías de la Información y Comunicaciones 2016*. (2016). http://www.ecuadorencifras.gob.ec/documentos/web-inec/Estadisticas_Sociales/TIC/2016/170125.Presentacion_Tics_2016.pdf
 8. Betsy DiSalvo, Parisa Khanipour Roshan, and Briana Morrison. 2016. Information seeking practices of parents: Exploring skills, face threats and social networks. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. ACM, 623–634.
 9. Barney G Glaser and Anselm L Strauss. 2009. *The discovery of grounded theory: Strategies for qualitative research*. Transaction publishers.
 10. Caroline Haythornthwaite. 2001. Exploring multiplexity: Social network structures in a computer-supported distance learning class. *The information society* 17, 3 (2001), 211–226.
 11. Parisa Khanipour Roshan, Maia Jacobs, Michaelanne Dye, and Betsy DiSalvo. 2014. Exploring how parents in economically depressed communities access learning resources. In *Proceedings of the 18th International Conference on Supporting Group Work*. ACM, 131–141.
 12. Carol C Kuhlthau. 1991. Inside the search process: Information seeking from the user's perspective. *Journal of the American society for information science* 42, 5 (1991), 361.
 13. Neha Kumar. 2014. Facebook for self-empowerment? A study of Facebook adoption in urban India. *New media & society* 16, 7 (2014), 1122–1137.
 14. Neha Kumar and Tapan S Parikh. 2013. Mobiles, music, and materiality. In *Proceedings of the SIGCHI conference on human factors in computing systems*. ACM, 2863–2872.
 15. Sonia Livingstone and Monica E Bulger. 2013. A global agenda for children's rights in the digital age. (2013).
 16. Philip M Napoli and Jonathan A Obar. 2014. The emerging mobile Internet underclass: A critique of mobile Internet access. *The Information Society* 30, 5 (2014), 323–334.
 17. Meena Natarajan and Tapan Parikh. 2013. Understanding barriers to information access and disclosure for HIV+ women. In *Proceedings of the Sixth International Conference on Information and Communication Technologies and Development: Full Papers-Volume 1*. ACM, 143–152.

18. Neil Patel, Deepti Chittamuru, Anupam Jain, Paresh Dave, and Tapan S Parikh. 2010. Avaaj otalo: a field study of an interactive voice forum for small farmers in rural india. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 733–742.
19. Trevor Perrier, Nicola Dell, Brian DeRenzi, Richard Anderson, John Kinuthia, Jennifer Unger, and Grace John-Stewart. 2015. Engaging pregnant women in Kenya with a hybrid computer-human SMS communication system. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*. ACM, 1429–1438.
20. Suhas Ranganath, Jiliang Tang, Xia Hu, Hari Sundaram, and Huan Liu. 2015. Leveraging Social Foci for Information Seeking in Social Media.. In *AAAI*. 261–267.
21. Jen Schradie. 2011. The digital production gap: The digital divide and Web 2.0 collide. *Poetics* 39, 2 (2011), 145–168.
22. Anselm Strauss. 1988. The articulation of project work: An organizational process. *The Sociological Quarterly* 29, 2 (1988), 163–178.
23. Sarah Vieweg, Amanda L Hughes, Kate Starbird, and Leysia Palen. 2010. Microblogging during two natural hazards events: what twitter may contribute to situational awareness. In *Proceedings of the SIGCHI conference on human factors in computing systems*. ACM, 1079–1088.
24. Yiwei Wang and Chirag Shah. 2016. Exploring support for the unconquerable barriers in information seeking. *Proceedings of the Association for Information Science and Technology* 53, 1 (2016), 1–5.
25. Yiwei Wang and Chirag Shah. 2017. Investigating failures in information seeking episodes. *Aslib Journal of Information Management* 69, 4 (2017), 441–459.
26. S Craig Watkins. 2011. Digital divide: Navigating the digital edge. *International Journal of Learning and Media* 3, 2 (2011).
27. Joanne I White, Leysia Palen, and Kenneth M Anderson. 2014. Digital mobilization in disaster response: the work & self-organization of on-line pet advocates in response to hurricane sandy. In *Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing*. ACM, 866–876.
28. Volker Wulf, Kaoru Misaki, Meryem Atam, David Randall, and Markus Rohde. 2013. 'On the ground'in Sidi Bouzid: investigating social media use during the tunisian revolution. In *Proceedings of the 2013 conference on Computer supported cooperative work*. ACM, 1409–1418.
29. Sarita Yardi and Amy Bruckman. 2012. Income, race, and class: exploring socioeconomic differences in family technology use. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 3041–3050.