To attain knowledge, add things everyday. To attain wisdom, remove things every day.  
— Lao Tzu

What is a user? From an engineering perspective, the ISO software engineering standard states that a user is "an individual or group who "uses" [a] software product to perform a specific function or to handle a specific system of business software" (ISO/IEC, 2003). Levy (2013) and Certeau (1984) both suggest that "the user and the social" engage in a communicative dialogue whose purpose is the accomplishment of some task... The human mind is also an "information processing system" [1]. One perspective from interaction design draws attention to the idea that "where the user is not the user is not" (Preece, 2015).

This perspective takes the individual as its unit of analysis. Studies of this form assess psychometric traits of individuals and then compare differences between groups of users and non-users. Such work can suggest potential differences between individuals who use a given technology and those who do not. With few exceptions (e.g., Baumer, et al., 2013; Lampe, et al., 2013), such work often reinforces a binary between users and non-users, which, while perhaps simplifying the analysis, may gloss over subtle nuances in different forms of engagement with technology. The papers in this special issue tend to take a different approach. While some focus on non-users of a specific technology, device, or system (Levy; Ribak and Rosenthal; Thörn and Kitzmann; Van House), this issue does not include an article that conducts a straightforward comparison of users and non-users.

Resistance, addiction, and identity

There are a number of studies that have focused on cases of deliberate, even conspicuous, non-use, as in when people swear off e-mail during their vacation or give up Facebook for Lent. In these cases, the deliberate refusal of a technology, one of the key traits of the individual is her or his ability to resist the temptation of using technology. Approaches that frame (social) media and technology use as addiction fall into this mold (e.g., Andreassen, et al., 2012; Stieger, et al., 2013). In other cases, non-use may represent an individual's attempt to regain (a sense of) self-control over their own technology use (e.g., Ames, 2013; Baumer, et al., 2013; Schoenebeek, 2014). In many of these cases, the discourse is one of control. Because the resulting non-use may be partial or negotiated, these kinds of studies tend not to focus "on" as a monolithic concept for which non-use is the binary opposite.

Alongside legal restrictions on Sudafed purchases, Levy makes the case that Nexafed thus emerges as a product of networked power relations tied to the prevention of methamphetamine use. Addictions, consumers want to signal proper use of decongestants, pharmacists want to be able to "do the right thing" for their communities, and shops see Nexafed as insurance against theft. In "Technologies of avoidance: The swear jar and the cell phone," Ethan R. Plaut conducts an informative conceptual inversion. Rather than avoidance of communication technologies, we might wonder about the forces that compel individuals to use communication technologies, especially when such use carries costs, such as the "reverse" of the swear jar. In the case of Nexafed, "technical" and "social" thinking together yield a solution to "surveillance as monitoring" (Banks, et al., 2015).

In "The user as network," Karen E.C. Levy uses actor-network theory (ANT) to analyze why anyone would prefer using tamper-proof Nexafed over Sudafed, which seems illogical using an individualistic understanding of use/non-use. Technical and cognitive psychological perspectives suggest that "the user and the social" engage in a communicative dialogue whose purpose is the accomplishment of some task... The human mind is also an "information processing system" [1]. One perspective from interaction design draws attention to the idea that "where the user is not the user is not" (Preece, 2015).

Development and the digital divide

While a significant portion of the literature focuses on voluntary non-use, there are ample cases where an individual may want to use a technology but cannot, or where certain technologies are not even available. Wyatt (2003) refers to those who are involuntarily prevented from using a technology as the excluded and the expelled. Lenhart and Horrigan (2003), drawing on survey data, argue that this distinction should not be described as a digital divide but more as a spectrum ranging from the truly unconnected, to elders and drop-outs, to intermittent users, to home broadband users. Satchell and Dourish refer to situations where non-use "has" its origins in economic, social, infrastructural, geographical, and other sources [2] as disenfranchisement. While "disenfranchisement" implies a temporal and spatial context, the notion of "freedom" and "ability" to use discrete devices in emerging markets has also emerged. For example, in one study, users expressed the desire for "to do the right thing" for their communities, and shop owners referred to a "digital divide" (Baumer, et al., 2013). Levy finds that, despite being ostensibly "free," Facebook use in rural Kenya was associated with various costs, both economic and otherwise. Burrell (2012a) found that among the young men who frequently visited Facebook, hoping to meet a romantic partner, this notion of exclusion is very much a story of "adoption" as "abstinence." In the case of "connectivity," an online culture established on Euro-American norms and low speeds (i.e., slow) and expensive connections made it hard to engage and keep up relationships with foreign contacts, even as a follow up with key informants many years later Burrell found many were no longer Internet users, having become disillusioned with the literacy possibilities they had once associated with the Internet (Burrell, 2012b).

Firmly transcending a focus on individual agency, such approaches draw attention to some of the broader social, cultural, and political aspects of technology non-use, especially outside of the Northern American and European contexts where many such technologies are developed. Focusing on social networking sites, Boyd and Ellison argue that, "although the situation is rapidly changing, scholars still have a limited understanding of who is and who is not using these sites, [...] especially outside the US" [3]. In this issue, both Banks' and Kumar's papers speak to these questions.

Power and agency

Finally, various contexts may shape, constrain, or otherwise influence the mode of technology non-use available. In some ways, this approach extends the ideas developed in notions of disenfranchisement (Satchell and Dourish, 2009), exclusion, and expulsion (Wyatt, 2003). However, it also acknowledges that technology use may be involuntary, thereby highlighting the interplay between individual agency and societal power structures (Certeau, 1984; Giddens, 1984). For example, the lagging resister (Baumer, et al., 2013) wants to cease using a technology but does not have the option. Numerous intellectual standpoints have considered the ways in which technological systems may "enroll," and thus limit the agency, of various types of actors (Latour, 2005; Law, 1986).

This approach also provides a slightly different lens on the digital divide. Rather than policy, infrastructure, and technological availability, it emphasizes governments, corporations, non-profit organizations, and the communities who consider what is involved and what is not possible. From this perspective, technology non-use becomes a question of how the exertion of power amplifies or limits the agency of certain groups. This issue includes several pieces that illuminate such power dynamics (Banks; Ems; Kumar; Pault; Van House).

In this issue

In "Lines of power," David A. Banks presents an engaging socio-historical analysis of the origins of the terms "online/offline," first in the early rail industry and then in the computer industry. In the process, he highlights the diverse role these terms play in linking "online" to positions of social and economic power. He then proposes that given the parallels between these worlds, resistance in the Internet service provision industry could perhaps take a lesson from successful resistance in the rail industry, where instead of individualized market-based solutions, "users" collectively fought for distributed control of the railways as "common carrier laws." This, Banks illustrates that being "online" necessarily constitutes a social relationship -- a context that is individual at state, with strong implications of power.

In "Pulling the plug visually: Images of resistance to ICTs and connectivity," Ricardo Gomez, Kirsten Fost, Meg Young, Rose Pauquet-Kinsley, and Stacey Jones make an important point about the representation of non-use. Much prior work studying non-use focuses on written text as its primary data source. However, Gomez, et al. point to the numerous visual images online that depict resistance to information and communication technologies (ICTs). The authors analyze 333 images collected from various online resources, focusing on four interrelated questions. Who is resisting technology? What is the nature of the critique depicted in the image? What specific technology is being resisted? How do visual depictions of resistance differ from textual depictions of resistance? Gomez, et al. point to significant use of humor, metaphor, sarcasm, irony, and related devices. Importantly, differ from textual depictions of resistance, these devices do not occur as frequently in prior work that uses primarily textual data. The findings provide an important lens into the sociocultural significance of, as well as visual and rhetorical tropes surrounding, resistance to ICTs.

Neha Kumar in "The gender-technology divide or perceptions of non-use" looks at rural Indian women and asks whether non-use is more perception than lived reality. That perception is shaped specifically by men within a patriarchal ordering that seeks to attribute inequality to the "women" rather than, within such a structure, women negotiate phone access and use in a way that keep their technological use and capability relatively concealed. This is an especially helpful reminder that scholars need to be vigilant in analyzing accounts of non-use (whether perceived or actual) and the results are always the disinterested reporting of facts, but often imbued with symbolic associations. In this way societies attempt to cast technology as suitable, manageable, or appropriate for some populations and not others.

In "Technologies of avoidance: The swear jar and the cell phone," Ethan R. Plaut conducts an informative conceptual inversion. Rather than avoidance of communication technologies, we might consider the discourses of communication avoidance. Many productivity tools that disable one's internet connection, or perhaps restrict access to certain Web sites, work in this fashion, just in case, limiting or forcing us to avoid specific types of communication. Plaut begins his historical-cultural analysis of the swear jar, an artifact intended to discourage the use of profanity through monetary penalty. A parallel can be drawn to constructions implemented in numerous communication technologies, as seen in the author's analysis of both existing devices and a corpus of U.S. patents. This analysis reveals how particular definitions of communication, selection, and avoidance are embodied in these technologies. Furthermore, Plaut suggests that this "patent imaginary" envisions, rather problematically, users who are willing to impose constraints on their own communication that have been designed and tailored by others. The author then draws implications, both for theoretical accounts of communication (avoidance) and for design of communication (avoidance) technologies.

In "The user as network," Karen E.C. Levy uses actor-network theory (ANT) to analyze why anyone would prefer using tamper-proof Nexafed over Sudafed, which seems illogical using an individualistic understanding of use/non-use. Through the ANT lens, however, networked motivations emerge as families and communities struggle with controlling methamphetamine abuse. In work on control and the prevention of methamphetamine abuse, Levy makes the case that Sudafed refuses to function as intended. Its "centralized" design aims to prevent "negative power relations tied to the prevention of methamphetamine use. This is achieved, among other things, by removing the logical back-end of the technologies, the sociocentrically limiting technologies.

Rivka Ribak and Michele Rosenthal in "Smartphone resistance as media ambivalence" consider non-users of smartphones acknowledging this as a temporary condition, one that is feasible in the long run. Nonetheless, the resistance to the smartphone is an expression of "media ambivalence" and these non-users provide commentary on an emerging smartphone culture that disturbs them, one of total availability, distraction, privacy violations and self-subjection to surveillance. These conscientious non-users are distinct from those who merely negotiate the overabundance of media-mediated. Yet, the admission of the likelihood of succumbing to smartphone use raises the question of whether, ultimately, users or non-users have agency in any true sense.

http://journals.uic.edu/ojs/index.php/fm/rt/printerFriendly/6310/5137

Baumer

First Monday, Volume 20, Number 11 - 2 November 2015

In “Exploring ethnographic techniques for ICT non-use research: An Amish case study”, Lindsay Ems presents material from her ethnographic studies of a classic, although frequently misunderstood, community of non-users, the Pennsylvania Old Order Amish. Ems’ study not only examines the careful evaluative practices that the Amish bring to any new technological innovation but also provides an important reflection on the methodological problems of studying non-use, and of managing ethnographic encounters in contexts where scrutiny of normative technical practice seem potentially threatening. Studying non-use is, after all, a tricky methodological prospect, it seemingly presenting itself as an absence rather than a presence; Ems documents the processes of surfacing the presence in studies of non-use.

In “Facebook enactment and practices among the ‘young old’: Implications for studying use and non-use,” Nancy Van House examines perceptions of Facebook among 65–70 year olds. Theoretically, the article draws on phenomenology and practice theory to argue that different "versions" of Facebook exist. This notion of version depends not on technical feature updates but on the (imagined or actual) uses, practices, and experiences associated with the site. Focusing on 65–70 year olds provides the author an opportunity to study users and non-users who engage with a version of the site that differs at least to some extent from the narrative in common discourse. She argues that studying non-use requires understanding the particular version of a technology that is not being used. As with much well-done research on non-use, this study provides an important complement to studies that treat social media, or technologies more broadly, as a monolithic, relatively uninflected whole.

In “Replicas, impostors, and the real deal,” Claes Thörn and Andreas Kittmann examine a community that intentionally rejects digital synthesizers in favor of 1970s analog synthesizers. They chart this community's reactions to software that simulates the sound of their favored equipment so well that they can't be distinguished in blind tests or algorithmically. What emerges as important in this technological resistance is thus more than keeping an 'authentic sound,' the professed reason among many in this community for using this equipment, or elitism, the claim of detractors and those who cannot afford the vintage equipment. It centers on the importance of keeping alive the equipment and practices that were in use when the music the community is listening to was produced. Through this analysis, Thörn and Kittmann highlight the emotional valence that technological resistance can inhabit.

Concluding statements

In a spirit aligned with that of Oudshoorn and Pinch (2003), we could have referred to this special issue as focusing on non-use and use. Technology non-use offers a fascinating sociotechnical phenomenon worthy of study per se. However, it also provides an opportunity to rethink how we approach, study, and conceptualize human relationships with, and through, technology. The authors in this collection take a multiplicity of approaches on diverse topics to develop a rigorous theoretical understanding for non-use, setting crucial groundwork for future research.

About the authors

Eric P.S. Baumer is a Research Associate in the Departments of Communication and of Information Science at Cornell University. E-mail: ericps [at] cornell [dot] edu

Morgan G. Ames is a Postdoctoral Researcher at the Intel Science and Technology Center for Social Computing at the University of California, Irvine. E-mail: webmaster [at] morganya [dot] org

Jenna Burrell is an Associate Professor in the School of Information at the University of California, Berkeley. E-mail: jburrell [at] berkeley [dot] edu

Jed R. Brubaker is an Assistant Professor in the Department of Information Science at the University of Colorado Boulder. E-mail: jedbrubaker [at] gmail [dot] com

Paul Dourish is a Professor in the Department of Information Technologies at the University of California, Irvine. E-mail: pd [at] ix.uci [dot] edu

Acknowledgements

This work was supported in part by the National Science Foundation under grant numbers IIS–1421498 and IIS–1144934, and by the Intel Science and Technology Center for Social Computing (DSTC-Social). Special thanks to the reviewers of submissions for this special issue: Mery Alber, Jean Beaudoin, Robin Brewer, Christina Dunbar-Hester, Ingrid Erickson, Stuart Geiger, Katie Day Good, Ellie Harmer, Nicholas Knuef, Leneke Kuijer, Sian Lindsey, Xinru Page, Jolynia Sinanin, Laura Porterwood-Stacer, Nimmi Rangaswamy, Daniela Rosner, Arke Schütz, Yoland Strengers, Jeff Treem, Janet Vertesi, Susan Ychise, and ShinYoung Yeo.

Notes


References


doi: http://dx.doi.org/10.1207/s1532793xpr11002_1, accessed 22 October 2015.


Editorial history
Received 2 October 2015; accepted 22 October 2015.

This paper is licensed under a Creative Commons Attribution-NonCommercial 3.0 United States License.

Why study technology non-use?
First Monday, Volume 20, Number 11 - 2 November 2015
http://journals.uic.edu/ojs/index.php/fm/rt/printerFriendly/6310/5137
doi: http://dx.doi.org/10.5210/fm.v20i11.6310