Research Article

# Anthropology, Development, and ICTs: Slums, Youth, and the Mobile Internet in Urban India

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### Abstract

*In this article, we present results from an anthropological study of everyday mobile Internet adoption among teenagers in a low-income urban setting. We use this study to explore how information about everyday ICT use may be relevant for development research, even if it is largely dominated by entertainment uses. To understand how ICT tools are used, we need to study the spaces users inhabit, even if these spaces are dominated by mundane, non-instrumental, and entertainment-driven needs. The key here is for ICTD discourse to situate insights from anthropological studies (such as this one) within an understanding of what drives a specific user population to adopt technologies in particular ways. Clearly there is a link between context and use, and understanding this may be invaluable for development research. Adopting a narrow development lens of technology use may miss the actual engagements and ingenious strategies marginal populations use to integrate technologies into their daily lives.*

## Introduction

This article engages with dual goals: first, to offer results from an anthropological study of everyday mobile Internet adoption for entertainment in a low-income setting, and second, to discern impacts and consequences of this study on information and communication technologies for development (ICTD) research. The study is primarily an anthropological exploration of ICTs and youth practices in an Indian urban slum, looking at motivations, engagements, and adoption of the mobile Internet into the everyday. The article addresses the tensions in expectations of and approaches to anthropology and ICTD in studying ICT devices as technical tools for human-centered, socioeconomic progress. We explore intersecting spaces in the two approaches toward the study of technology adoption in diverse development contexts.

## Anthropology and ICTD: A Dialogue

A central tenet of ICTD is that "ICTs can enable solutions towards human progress when applied with a broad understanding and a multidisciplinary approach" (Brewer et al., 2005). Despite the broad and liberal definition, the ICTD community tends to privilege what are and what are not desired/legitimate developmental impacts of technology. For example, it is

fair to assume that most of the ICTD community would agree that mobile phones are clearly development artifacts when associated with a rise in livelihood opportunities. However, if mobile phones simply fulfill entertainment needs, many in this community would question the relevance for development. This leads to the argument that the phone contributes to development goals only if it transfers microcredit and not a ring tone to a client, or that mobile money is an ICTD tool only because it aids a migrant urban laborer to transfer money to his native village and not to buy a ticket for a cricket match. From an anthropological perspective, this distinction is arbitrary, even harmful, because it unnecessarily blinkers the ICTD community into looking only at a narrow slice of the full range of human experience of the people who use the technologies (Heeks, 2008).

Anthropologists ground their research in the deliberate and extended use of technology where "the user embeds the device into his every day and makes it his own" (Bar, Pisani, & Weber, 2007). How would an anthropologist attempt to understand the acquisition and use of the mobile Internet in a poor, urban context? First, anthropologists would begin research from observations of everyday life, namely, what is happening around them and not what problems need to be solved (Burrell & Toyama, 2010). To an anthropologist, the proliferation of mobile phones and new media poses new questions of their sociocultural effects and impacts on users and in contexts of use. Capturing the rich experience of technology in the daily lives of poor, urban youth offers a research opportunity to investigate how ICTs are used for interaction "at the margins" of urban society: Will it make youth more employable? Will it enrich their individual, social, and cultural lives?

ICTD research is concerned with designing a development project for socioeconomic welfare and evaluating the resulting impacts in an underprivileged context. In this article we revisit and open up critical spaces in the realm of ICTD related to perceptions of poverty, the needs of the poor, and the use of technology for development goals. First, poverty is not a homogenous terrain open to uniform ICTD interventions. It comprises people of varied material status, economic aspirations, and social dynamism. Similarly, the poor as subjects for ICT interventions need fine-grained understanding of their internal distinctions, capabilities, and limita-

tions. In the tradition of Sen's "developemnt as freedom," we argue the poor have to be viewed as a dynamic social category with active agency to adopt technologies, rather than inert recipients of developmental action. If development is understood as fulfilling human needs (i.e., providing better lives for the poor), are these needs a homogenous category, only including primary goals for human progress? Are certain needs, such as good health, education, and stable employment, more fundamental than other needs, such as social interaction, entertainment, or religion, for positive development impact?

Our research investigates an urban slum and the self-driven engagements of teenagers with the mobile Internet. We observed and recorded characteristics of teenagers, mobile Internet use, and their interrelatedness to the context of the urban slum. We discovered entertainment as a critical area of technology infusion and wanted to explore what lay in these paths of access and use. This article argues entertainment practices as: (1) leading to discovering new skills and abilities; (2) offering a space to experiment with technology; and (3) leading to valuable social spaces functioning as informal technology hubs. Along with other researchers (Castells et al., 2007; Donner 2008, 2009; Donner & Gitau, 2009), we address limitations of focusing on reviewing poverty (the site) and the poor (the needs) as primary agendas for ICTD by uncovering the richness of contextual technology use that may or may not be "developmental" in scope (by some narrow definitions of *development*). Rendering youth, who belong to a low-income population even if they do not occupy the lowest rung of the socioeconomic pyramid, as recipients of development initiatives is problematic if the latter excludes the role of agency in the acceptance or rejection of technology as tools of development or social progress. Young people purposely select aspects of technology use that best suit their lives. We may ask two things: (1) Can everyday ICT usages engender self-empowerment without the need to explicitly characterize them as developmental? (2) Can entertainment-driven usages comprise a relevant domain of usages from an ICTD viewpoint?

Studying entertainment-driven needs does not smoothly cross over into the ICTD world of technology utilitarianism. Also, there is much to be gained in (re)examining mundane, non-instrumental practices, without which our endeavors to frame users

remain incomplete. During our fieldwork, we observed several indicators of subject perceptions of ICTs and the usages they put them to, and we believe these make a significant contribution to ICTD. ICTD research can benefit from the recognition of the rich experience of technology revolving around the need to self-direct and create spaces of expression; how access and connectivity come to be forged and what prolonged ICT access amid young people living in urban and marginal locations results in. We believe anthropology can fill the gap existing between technology design and technology use by contextualizing a variety of rich user appropriations. The theoretical and methodological tools anthropology employs can enable a rigorous analysis of the cultural rules, resources, and capabilities of a sociotechnical system beginning from the actual sites of Internet use. These are specific configurations of use in specific social contexts where users understand Internet technologies and manage, share, and expand use.

The article has four sections. First, in our literature survey we do a quick review of the ideological underpinning of ICTD as research domain. We also scaffold this section with a few anthropologically informed ICTD treatises. Next, we describe our methodological premises, guided by multiple frames of reference during field observations and interviews. Third, we describe some of the results of our study about mobile Internet appropriations for entertainment by teenagers in a Hyderabad slum. Finally we discuss our findings by reviving entertainment-related ICT usages as a valid research subject in human development and social progress.

## Related Frameworks

Some of the seminal ICTD research studies are tightly linked to clear socioeconomic outcomes. Much of the normative ICTD literature, despite differences among individual ICTD initiatives, contextual practice, and local impact, subscribe to an ideology that privileges community development in the domains of health, education, and livelihood opportunities For example, Brewer et al.'s seminal article, "A Case for Technology in Developing Regions" (2005), subscribes to a similar overarching notion of ICTD. Despite the diversity of communication ecologies and infrastructural resources across the globe and the diverse range of ICTD disciplines

involved in studying them, we rarely see theorists or practitioners go beyond a deterministic, utilitarian view of how information technology can lead to socioeconomic development. Among key players in India, there is a widespread belief that ICTs will support economic and social development by facilitating participation in global markets, promoting political accountability, improving delivery of basic services, and enhancing local development opportunities (Kumar, 2004; MSSRF, 2004; Pringle & David, 2002). World charters of development bodies (Hart, 2002; MDG, 2012; WSIS, 2005) believe in ICTD as an agenda for digital inclusion in a bid to empower underprivileged communities.

We would like to explore the alignment of an anthropological approach with a capabilities perspective of viewing ICTs as potent reinforcements for individuals to "lead the lives they have reason to value" (Sen, 2001). The Senian lens of *development as freedom* is clearly a disenchantment with accumulation of wealth, the growth of gross national product, and other income-related variables as the only precursors to development and a serious engagement with capacity building among individuals and communities to make a wide range of choices. According to Sen, *development* is a process of expanding the valence of freedom in the individuals' everyday lives. Allied to this is what we might term *human agency,* which is the ability of people to mobilize themselves and others toward a higher quality of life. From a capabilities perspective, development of individuals and communities is about the ability to recognize and access an opportunity, make a choice, and then allow this decision to make a life-enhancing difference. Sen's capability approach as a means for understanding a broader range of ICT impacts and development goals is gaining currency in the ICTD domain of research (Information Technology for Development, 2012). This approach, for ICTD scholars, suggests looking at ICTs as "multi-purpose technologies which could empower individuals to attain development outcomes of their own choice" (Kleine, 2010). Our article attempts to enrich the idea of acquiring capacity and agency by focusing on how ICTs, especially the mobile Internet, facilitate the concepts of agency, empowerment, and the freedom to make an informed choice. We wish to address some of the theoretical and methodological difficulties in measuring concepts like *capability, agency, freedom,* and *choice* by integrat-

ing them into an anthropological approach and research study. One such question is: How has the arrival of the affordable Internet enhanced capacity-building of individuals to make a wider range of choices? Our goal is to advance our understanding of agency as freedom and empowerment and the role of the mobile Internet in promoting that goal. Specifically, we adapt and explicate an anthropological research study to embed these concepts, which might add a dimension to the ICTD domain and explore possibilities to tie non-instrumental, mundane, and opportunistic usages for developmental outcomes.

A growing body of research examines the role of user agency and the shaping of ICT use in everyday life (Bell, 2005; Burrell, 2008; Horst & Miller, 2005; May & Hearn, 2005). Much of this work can be situated within a Senian framework of investigating issues of freedom, expression, and agency; not necessarily in the language of development or progress but with a view of digital artifacts transcending their literal or functional meaning (Wise, 1997). Cultural theorists (Latour, 1987; Pinch & Bijker, 1984) provide a framework against which we can examine technological artifacts "not for what they are but for what they enable." We also believe the idea of development as an exercise of choice corresponding to one's capability comes closest to supporting what we argue as "contextual usages" of technology. Anthropologically driven approaches in the study of ICTs (Horst & Miller, 2006; Miller & Slater, 2000), both as social artifacts and as tools for development, overlap with the approach of realizing human capabilities as development. More important, we generate a discussion of technology adoption based on the notion that motivations, desires, and personal and contextual affordances are foundational in defining how paths to development are chosen and executed. We suggest that entertainment may well be instrumental in not only energizing the means but also qualifying the ends of what is considered human development and social progress.

Why then do anthropologists study the Internet? Some analyze it as an addition to mass media, others as an interpersonal communication tool or new system of corporate organization, and others as a device that facilitates trade (Selwyn, 2004). Such a perspective demonstrates in numerous ways the interpretive flexibility of technology: that the mean-

ings and uses of a machine or system are not pre-determined by the form alone, but come to be understood in distinctive ways by different user populations. Following Appadurai (1996, 2000) on how electronic mass media fuels aspiration and agency, the Internet is viewed not simply as a resource to be acted upon but one with consequences for everyday behaviors. In encounters of the Internet, imagination plays a critical role in the way it shapes social practices and how the Internet came to be distinctly appropriated by socially diverse user populations. In taking this stance, this article joins many other works of ethnography and historiography (Bijker, 1995; Burrell, 2008; Burrell & Anderson, 2009; Fischer, 1992; Horst & Miller, 2005, 2006). Horst and Miller's (2005) ethnography attributes the rapid and ready adoption of mobile telephony among low-income Jamaicans to its successful absorption into the local forms of networking practices. They use the term *link up* to refer to local networking patterns in mobile phone adoption. Two theoretical frameworks stand out: The first is the conception that ICTs (including an expanding array of mobile phones, computers, Internet, and other telecom and portable digital media hardware and software devices) can be "deployed effectively to close the 'digital divide' between the 'haves and the have-nots' by addressing issues of their effective access and use" (DiMaggio & Hargittai, 2001). The second is the conception of ICTs as meaningful tools bearing social value, value that has been necessarily brought about "through conscious acts of configuration, mediation, and active interpretation by social actors" (Dholakia & Zwick, 2004).

Though there is no one "correct" theoretical stance when looking at young people and technology, anthropologists would remind their audience that a full analysis of the ways in which a technology is used by a young person requires a deep understanding of the social and interpersonal circumstances in which technologies exist and through which they attain their meaning. If the individual is an agent in his or her own development, there can be no predetermined outcome to technologies' development and implementation. Instead, technologies are subjected continually to a series of complex interactions and negotiations with the social, economic, political, and cultural contexts.

## Method

The anthropologist in ICTD research studying a development intervention will typically undertake "thick" ethnographic (Geertz, 1973) descriptions of developmental contexts. Next, they would frame descriptive data through analytical frameworks to unpack the interrelatedness of social context and individual use. Our study is ethnographic in nature and aims to study and engage deeply with a small sample of users. Hence, from a focused and deep engagement with a set of users, our findings are indicative of broad trends and patterns of behaviors. We employed a variety of qualitative methods, including open-ended interviews, observations of community life, and semistructured baseline interviews, all aimed at achieving a "thick description" of contexts of technology use. We chose our field as Hafeezpet for two reasons: one, its fit to a typical unauthorized and informal urban settlement we refer to as slums; second, due to its proximity to the vast public infrastructures in the IT hub of Hyderabad, a burgeoning global IT city of India. The slum quarter stands on unauthorized land currently in the process of being regularized by the government. Hafeezpet consists of three neighborhoods, two on either side of a highway that emerges from the Hi-tech Park and arrives at the Hafeezpet railway station. Two smaller sectors of Hafeezpet Aditya nagar and Prem nagar lie on one side and a third sector Marthand Nagar on the other of the highway.

The study was conducted in two phases. Initial investigations in November and December 2010 consisted of observations and semistructured interviews with civic and political leaders in Hafeezpet, as well as with shop owners who traded in mobile phones, ran a video gaming parlor, or a cybercafé. Our aim was to speak with key informants who occupied important local administrative positions and represented a sample of ICT-enabled businesses that would map out the demand and consumption for ICTs, such as mobile phones, the Internet, and on/offline gaming. Public spaces such as shop fronts, households, traffic intersections, and crossroads, as well as communal spaces such as street corners and weekly street bazaars, were observed to record Hafeezpet's "everyday" life. This process shed valuable light on the locality's political economy.

The study's second phase took place from January to April 2011. This fieldwork involved more in-depth and semistructured interviews with 20 randomly selected teenagers ages 15–19 living in Hafeezpet. We interacted with and profiled each subject over several weeks and multiple interviews (an average of 30–90 minutes per interview). Some respondents also emerged as key informants and field guides, providing valuable insights into daily Internet use. Our initial focus was to observe the processes by which teenagers acquired mobile phones and activated and used the Internet on their mobile phones. From a broad understanding of these behaviors we narrowed our focus to understanding the persistence and sustenance of usages. Of particular importance was tracing the paths of access, use that sustained these behaviors.

A number of teenagers offered coherent pictures of how they fit the Internet into their lives, describing it not only as a technical tool but as a social tool: talking to friends, interacting with other people, communicating/chatting with friends/family; listening to music; playing games; watching movies and video clips; and having *fun* sharing unique experiences. They spoke of using technologies as a means of "finding comfort," a way to manage and build personal technology infrastructures as an important element in conducting their own lives.

All interviews were audiorecorded and transcribed. We coded empirical data to reveal connections among the introductions, enlistments, and sustenance of Internet use. These informed our primary analytical concern of linking the potential of an anthropological inquiry of Internet use in a constrained tech-ecology at the bottom of a consumer pyramid. We further probed pivotal elements, such as the beginning and the amplification of Internet use and the unfolding and maturation of skills to use the Internet. This led us to ethnograph spaces, both social and technical, in technology adoption and expansion.

## Findings

Our study is not about a one-to-one correspondence of mobile Internet use and livelihood or educational opportunities nor does our study scope out future developmental prospects for teenagers. What it does is study the ways in which an Internet resource is managed, used, and integrated into the routines

of everyday life among underprivileged teenagers. To do this, we have taken care to maintain a focus on the context of Internet use and subjects' technology landscapes, giving rise to affordable, reliable, and sustainable modes of interactions. The mobile Internet inaugurates and mediates youth social agency in Hafeezpet. This section not only emphasizes the paths and processes by which everyday Internet is forged but the changes ensuing from such a contact in young users' lives. This section provides key findings from ethnographic research and a discussion supporting initial research questions around non-instrumental ICT usages and impacts among our key informants centered on the following: (1) Investigate everyday entry points for Internet use; (2) Identify ways the Internet is understood, accessed, used, and shared in multiple ways; and (3) Qualify the social paths sustaining the persistence of Internet use.

These young Internet users are non-elite, are marginally employed, and have a limited education that they have struggled to obtain and leverage in the down-market environment of an urban slum. Specific changes in the capabilities and practices of youth and the broader social interactions that emerged from mobile Internet practices are worth noting.

### Acquiring the Internet

This section outlines the initial moments in a series of encounters of Hafeezpet teenagers with the mobile phone and Internet. Clearly, this is a social process setting the stage for perpetual interactions of embedding the Internet into their lives. Many Hafeezpet subjects go that extra mile to prepay and activate the Internet. Not only are they actively budgeting daily expenses but also looking for parttime work, fuelled by a desire to pay for Internet use.

Entertainment usages constitute a significant portion of everyday Internet use, transforming the technology experience of users who have had no previous experience with the Internet. At the time of our research, 12 out of 20 profiled teenagers were using the Internet on their mobile phones and the remaining eight teens occasionally accessed the Internet on a borrowed phone. For 15 of them, their first experience of the Internet was on a mobile phone. Seven teens had used the Internet on a computer in their schools, at a cybercafé, or at a friend's home. None had a technical understanding of the Internet but knew some of the things it could enable them to do. For most, the Internet was a pathway to games, music, and video, driving behaviors to browse, search, and identify content on the Web.

For most of Hafeezpet youth, the Internet used to be something that only existed in a cybercafé. Then two years ago, telecom provider Aircel introduced the "pocket Internet" for mobile phones for a charge of Rs. 5 for three days of unlimited use. Three of our teenage subjects were early clients of this Aircel plan and have since developed a dedicated fascination for the pocket Internet. As one of them, a 16-year-old, put it, "Mental *kartha hai*, it's blowing my mind." It is probably not a coincidence that two of the three cybercafés in the neighborhood have closed down services in the last two years. Omar, 19, an early mobile Internet user who repairs mobile phones in his brother's store, sums up his "magical" experience:

> This is magic in my palms . . . I download songs, movies [it takes 2–3 hours to download a 200–250 MB movie during late evening] and watch them in the night when I get back home, I play games in between servicing clients . . . I change my Internet plans as and when I come across a great one that gives me the most for the least . . . I am probably the quickest in knowing what plans are floating around. I remember a 5-rupee plan for three day with unlimited usage. [laughs] This must be a plan to hook us as I remember the craziness in those three days! Now I use a plan that offers me unlimited use and downloads for three months for the price of 123 rupees . . . This times out next month after which I will hunt for other plans.

Omar's magical moments with the Internet are carefully planned, scheduled, enjoyed, and expensed.

Entertainment needs bring more users to the Internet, irrespective of their socioeconomic backgrounds, schooling, and skillsets. Mobile phone entertainment was something our subjects defined as a delightful "time pass," encompassing music, videos, games, or chatting with or without the mobile Internet. Sai, 17, a 7th-grade dropout and a daily wage laborer at a construction site near Hafeezpet had a basic, low-end Micromax X265 but borrowed his friend's Internet-enabled phone. In his words,

I finish work around 5–6 P.M. and hardly wash myself of the day long dirt when I begin texting to my friends who I will meet shortly at Naseer Bhai's medical store. Nobody at home knows what I'm up to . . . who can know? I use the phones of Kulbeer, Naseer Bhai's, Irfan's or Khaiser Phone . . . I simply am mad about the games they have on these phones . . . I also browse the Internet to find movie stars, songs . . . jokes and wisecracks in English. I am learning to download content, too . . . It is my most enjoyable time of the day.

The mobile phone and the accompanying Internet plan come with much effort and perseverance. Ten of our subjects paid for their phones from self-earned money. Eight have hand-me-down phones, while two were gifted new ones. Kulbeer (age 16), a high school student and active user of mobile phone Internet, began using mobiles 4–5 years ago. He worked this summer assisting a pharmacist and spent a chunk of his salary for a second-hand Nokia N-83 to support advanced gaming. In order to buy a new low-end phone, Mahesh (age 17) supplied milk packets to homes in the morning before going to school. Dattu (age 16), currently in high school and the poorest in our pool of subjects (his father is a "coolie" in the Hafeezpet railway station), earned his phone, a second-hand Nokia n-gage (a gaming phone), doing odd painting jobs. He has since moved to earning a small living in the second-hand rotating market for handsets, buying and selling used phones in his network of friends and acquaintances.

Subjects spent, typically in a month, an average of 50 rupees for activation and use of the Internet. Almost all of them buy re-charge coupons ranging from 5–99 rupees, depending on how much they can afford at the time of purchase. Many deliberate on the size of downloads available for specific re-charge coupons to stagger usages and expenses. Salman says,

This month I brought three 5-rupee coupons and two 27-rupee ones. I wanted to go straight for the 99-rupee plan but I know I would finish it off in a few days . . . hence postponing and dragging my enjoyment.

Kulbeer, the heaviest Internet user in this study, spent around 100 rupees a month just for Internet access. The 100 rupees is an amalgam of re-charge coupons worth anywhere from 5–27 rupees. He says, "I do not go for big re-charge coupons . . . I almost get "mental" when I am working the Internet . . . This way I keep a tab and also prudently spend my pocket money."

This teen society functions almost as an exclusive secret society with little interference from community seniors. As Dattu says, "Watching TV is completely regulated but the phone affords so much freedom . . . Nobody at home can even text, leave alone open the phone and access content." Teenagers are independent of external rules regulating conduct with media technology and sometimes, as Omar says, "I go overboard but these are exciting times . . . with 20 cents for a day's worth of Internet."

### "Doing the Internet": The Learning Process

Games, audiovisual content viewing, download, and other non-instrumental uses of technology are important not only because they draw people into the digital world. These uses engender collaboration, improve skills in using technology, and improve language skills, information-seeking skills, and targeted browsing. While Internet use may eventually expand to include other (instrumental) uses, entertainment remains the hook for initial access and recurrent use. The persistent use of the mobile Internet segues into a sustained experience and a newfound focus. Many of these youth lumped all the activities derived from the mobile Internet into a single expression, "doing the Internet." This expression went beyond strictly online activities to include the consumption and sharing of downloaded content and social activities associated with discussing tips and tricks, shared gaming, etc.

Learning begins from multiple sources and for varying needs. Aamir (age 18) learned almost the entire repertory of phone functions on his uncle's Internet-enabled phone as it lay around in his home. When Aamir got his own, his first task was to activate the Internet on his mobile. "This, however, was not a Nokia but a much cheaper China-made Sigmatel S30 that gave me Internet for a fair price . . . but I couldn't understand it like I did the Nokia phone." He called customer care from his phone but was unable to follow the conversation. He then went on to record the conversation and played it back a few times to "get a hang" of his phone. He now even reformats his phone to rid it of viruses

from the humongous amount of downloads from free websites on it. His uncle and his friends aid and abet his mobile phone use. Karthik (age 18) and Omar help run their family-owned mobile shops. Karthik supervises an active content download business, while Omar manages mobile repairing tasks. Both are expert browsers and can teach a "thing or two" about "where to look for a treasure chest of free audio and video downloads." Omar quips, "I can tell you where to go for Akon and where to go for patriotic Telengana songs." They are also self-proclaimed experts in applications like MS Word, MS Paint, and FrontPage. Siraj (age 16) is an eighth-grade dropout now interning as a car mechanic to support the small earnings of his father, who drives a truck. Bored with playing with his father's phone, he began hanging out with his schoolmate Sainath who carried a "smarter" phone and

> after school I used to walk my friend to be able to feel and play with his phone . . . In fact I borrowed his mobile for a day by keeping a deposit of 200 rupees [in case of any damage] and toyed with it to my heart's content.

 Kulbeer, Bhaskar (age 18), and Sunny (age 17) were in college and had, in their words, "developed sophisticated usages of the phone." They claimed they are the only ones in Hafeezpet who are on Facebook and can "Google anything or anybody." They claimed they were "acquiring education in English, mix around with sophisticated types of friends who speak fluent English, have PC in their homes, and go out to the mall movies." Sunny was excited about a new browser freely available for mobile phones: "I discovered the UC browser which has many inbuilt websites for downloading content from mobile Internet . . . It is better than other Web browsers like Opera mini, Ovi, and Bolt browsers." Kulbeer reels off the capabilities of his Nokia 5300 with 2 megapixel camera, memory card, Bluetooth, infrared, P2T, media player, audio and video recording, and Internet capability:

> I am an ardent fan of the UC browser and a regular visitor of Waptrick, the free site for audio and video files. My 8 GB card is crammed with audio-visual content . . . I have downloaded applications like mobile tracker, locker and address file hide.

 Sustained usages played a pivotal role in adoption among these teenagers. And once hooked,

they begin baiting their peers! The next section characterizes an interactional sociotechnical context introducing, enlisting, and immersing users into a space afforded by the mobile Internet.

### The "Adda": A Sociotechnical Hub to Do the Internet

This section characterizes interactional spaces and contexts (as different from agents or people) of how the Internet diffuses and transforms the world of a set of teenage user population. We define the *adda* as a sociogeographic construct and an interactional space embedding the mobile Internet into the lived contexts of users. We describe the characteristics of these spaces that initiated many of our subjects to the features, usages, and *thrills* of the mobile Internet.

 The *adda,* or the hub, is an organic social formation radiating and synthesizing Internet usages in Hafeezpet. The hub is not a virtual, online, or digital entity; it is a sociogeographic presence filled with the youth of Hafeezpet, consisting of regular meetings to chat, learn, discuss, and update knowledge of the mobile Internet. Many of our respondents rely on the technology hub to learn, show off, brag, and teach each other. Importantly, the hub functions as an advisory body, suggesting which mobile to buy, at what prices, Internet plans, and the latest deals going around.

 We found two hubs: one in a medical store owned by Nasser (age 25), an affable shopkeeper and managed by Irfan (age 16), and another in a mobile shop run by Omar (age 19).

#### Hub 1

Masterminded by Irfan, the core participants in Naseer's hub are Kulbeer, Khaiser, Sai, and Koti. Naseer is more of a benevolent absentee landlord, allowing the hub to take a life of its own shaped by core users. Khaiser worked there earlier, while others made it their hang-out and routinized their evenings after school or work. Nasser drops in and out, delighting in the space that has, willy-nilly, taken shape around his shop. Apart from the core, there is a perpetual flow of customers, many dropping in and out of participation with the hub. It's a fun time for the core: Irfan has a basic, unbranded phone, which occupies the lowest rung in the hub's technical hierarchy of mobile phones. Irfan does not worry that the phone has no Bluetooth option. He gets all the music he wants from Kulbeer by copying them

onto his memory card using Naseer's mobile phone. Irfan says, "Kulbeer's n-gage is always available for an evening of mobile gaming! I'll wait till I can afford a fancy mobile." He recalls Kulbeer as his video gaming partner at Game-point, the best gaming parlor in Hafeezpet. Along with Khaiser, Irfan visits Game-point to improve his gaming skills. He believes this had equipped him with "nimble fingers" to game on his mobile phone.

This experimentation/dissemination of skill and know-how, along with content, flows from high-end to low-end phones. On the advice of Kulbeer, Sai was a recent and proud owner of a Micromax X265 Java-enabled gaming phone. Kulbeer had passed on several games downloaded from his favorite sites, made easy by his friendly UC browser. He said,

> Games designed for big TV screens find their way into my mobile screen. I dig this. Why do I need a PS3? I keep digging information on free websites . . . I discovered Waptrick.com. It's the *Khazana* [treasure chest] of free content.

Apart from "yellow paging" Internet plans, talk time deals, and mobile brands/specs, the hub is a hotbed of rotating handsets. Naseer's hub was an inviting informal site of sharing and negotiating with prospective sellers and buyers of mobile phones in Hafeezpet. Mobile phones were hotly debated, features dissected, and deals struck. Kulbeer, Sai, and Irfan recently entered the street marketplace for trading used handsets, trying a hand at clinching deals, and gaining extra money to buy the pocket Internet.

As an important and informed member of the hub, Kulbeer was building a small "street startup": buying used handsets of his college friends and selling them among the sizable casual and contract laborers in the area. Kulbeer has clearly emerged as the center of the hub. He is a chartered accountant, a city slicker, dominant Internet user, and facilitator for learning and sharing phone information. He called himself a budding "technocrat," having started young with a video hooked to his home TV for playing games. He watched CNN News, NatGeo, and *Kaun Banega Karodpathi* (How to Be a Millionaire) to update his general knowledge and to complement his knowledge of phones and websites. He had IDs in Yahoo! mail, Orkut, and Facebook, and he hopes to access them on his phone someday rather than the Internet center near his college.

## Hub 2

The second hub was Omar's mobile shop, F.C. Mobiles, on the main road of Hafeezpet. Wasim, Sikander, Bhaskar, Yusuf, and Zaheer formed the core, with Omar as the ringleader. The road houses many microenterprises and young working persons who dropped in and out of the hub. Omar runs his family's mobile store and repairs mobile phones in addition to being the self-appointed tech guru. An Internet "junkie," Omar was constantly discovering "stuff on the Net," honing his estimations of size and duration of audio/video downloads. He is the resident consultant for customizing the needs of his friends to an appropriate Internet package aided by his encyclopedic awareness of Internet plans constantly under revision by service providers.

Amid helping customers activate and recharge phones or tinkering with the circuit board or the ringer on a client's phone, Omar would listen to songs, watch movie trailers, or play games fetched by his UC browser. Much of his status as tech guru came from the nuanced advice about fetching, managing, and consuming content. In fact, Omar's hub was a troubleshooting paradise for self-proclaimed Internet addicts and generic mobile phone users who gathered around him, not only to disentangle everyday usability issues but to learn specific skills. Omar took credit for evangelizing the UC browser, but self-admittedly withheld information "that came to him after much playing around and figuring out" to maintain his importance as the center of attention.

Wasim and Youssef "learnt the 'A, B, C, D' of mobile phone and Internet" from Omar. They got the right Internet plan, activated it with the correct Aircel offers without getting "wiped-out" for their faulty use of talk time for Internet. Wasim got his Internet activated, look a crash course on "what buttons to press for what functions," downloaded the correct AV player from the correct website, removed viruses, and reformatted the phone, but he never got beyond a certain point of proficiency. "Omar downloaded core player for me but did not share how this is done . . . Possibly that's why he is always surrounded, like bees around a hive." Omar is an eighth-grade dropout and a self-taught techie. He claimed that the lack of literary and scripting proficiency drove him to experiment and discover hardware and audiovisual content. He cannot read his SMSs adeptly and works around any capability

that requires language and texting ability. Often hub members help Omar read and reply to SMSs he receives. This has not stopped him from acquiring a considerable amount of expertise and knowledge pertaining to phones and the Internet. He downloads pictures to identify and memorize models and components of mobile phones.

Omar and Kulbeer, two hub leaders, are as different as chalk from cheese! Kulbeer, younger than Omar by two years, will graduate in a few years. He seeks and learns skills from his college classmates to operate and browse the Internet and brings this expertise to inform his friends in the neighborhood. He says this knowledge is "sort of *fitted* (customized)" to Hafeezpet youth. He is casual, wears his expertise lightly, and has no qualms sharing his skills with buddies and lurkers in the hub. Naseer's hub functions more as an informal space for information mongers rotating used phones on the best buys, deals, and latest offers in the second-hand market. In contrast, Omar, self-taught and self-conscious about his lack of formal education, is a teacher who never shares his books. He is all business with his clients and friendly with his hub members but is careful to maintain his position as the source of knowledge.

## Discussion

If constrained technology environments such as urban slums or how youth use ICTs are legitimate interests for ICTD research, such concerns could pave the way for a subtle, yet vital exchange between the domains of anthropology and development with the aim of expanding a utilitarian notion of ICTs and their role in human progress.

As we noted in the introduction to this article, anthropology can potentially open critical conceptual spaces to introspection in the ICTD domain. First, a low-income and infrastructure-challenged space such as the urban slum is a dynamic and diverse sociotechnical universe, capable of forging technical skills. Second, it is inhabited by an agile and aspiring set of technology users who show agency in the adoption/diffusion of ICTs and associated proficiencies. Third, agency from within these contexts (not directed by external agents and agendas) qualifies the needs, requirements, and desires to interact and sustain engagements with ICTs.

### *Agents and Agencies of ICT Use*

So far, this article has explored not only agents of entry but also agencies persisting with the Internet: first, the kinds of people who are drawn to and evangelize the Internet, and second, how they radiate and synthesize these experiences. Thus, from the perspective of ICTD, the Internet for entertainment can provide:

- agency, drawing young persons to experience the Internet firsthand;
- accessibility to operationalize the Internet;
- platform affordability;
- uniformity of experience and interaction overcoming socioeconomic and educational differences;
- a deep sense of play, self-exploration, and learning; and
- increasing integration and infusion of technology into daily use.

Technology adoption and use in constrained-access ecologies may be motivated by non-instrumental usages that may not seem immediately beneficial or developmental in scope. In Hafeezpet, the use of the mobile Internet completely comprises AV downloads, gaming, and chatting. But these have resulted in teenagers flocking to the Internet, unseen and unused before in their young lives. The Internet, for the first time, comes in affordable portions, wireless, palm sized, and accessed in the slum's street nooks and crannies. Entertainment as a driver of Internet use can also be a specific appropriation in contexts of marginalization or social exclusion. Why aren't the youth using prepaid Internet to surf for educational content? This brings us to the question of possibilities and opportunities in Hafeezpet and its lived world of teenagers to use the Internet beyond entertainment practices. Clearly Kulbeer, Omar, Irfan, and others are not seeking educational opportunities on the Internet. Our subjects clearly think of the Internet in particular ways and in types of user appropriations possibly considered trivial from the perspective of ICTD-bracketed usages. Still, skills such as identifying appropriate content, programs, apps, and virus management can definitely be considered as positive developments that demonstrate skillful and creative usages.

A more important query seems to be the role

desire plays in instigating technology use, especially when the user is coping with acute economic constraint. In the course of our research, we found subjects enthralled with the freedom and functionality afforded by the Internet as wearable, palm-sized phenomena over what they actually did with it. It is one thing to say that getting access to mobile Internet-empowered teenagers to carry out tasks that earlier needed a broker (e.g., audiovisual files and games bought from a shop). It's another to say the mobile Internet was coveted as an ICT artifact irrespective of what or how it empowers teenagers. Many expressed sensing a "thrill, a power" by being able to do what they could "only dream of." To quote Sikander, 17, a high school student who also works part-time night shifts in a nearby BPO vending food,

> I couldn't believe when I began downloading a song as I was walking to work and it did download the way Omar showed me . . . I may probably spend more activating Internet to fetch my songs and movies than get it from a shop or even free sometimes.

It is this high that teenagers admitted to feeling while using and carrying the pocket Internet that drives their periodically obsessive use of it.

We might ask, given economic constraints and the desire to use technology at one's will and pleasure: Will young users gravitate toward more functional/utilitarian use? Teenagers are being driven by passion and play in this rush to be part of the Internet revolution. But the care and concern to budget the prepay and target the right phones and deals are part of this adventure! Even experienced users are channeling their agency more toward initiating their younger counterparts into the ways of employing the everyday mobile Internet.

Clearly, Hafeezpet youth are spending good money on needs, which begs the use of the term *functional* or *utilitarian*. Indeed, they are happy to divert time and money that might be spent on *developmental* usages to mobile video downloads! This nudges us to look for a more effective framing of the poor or marginal sociotechnical ecology and engagements with ICTs. In Hafeezpet mobile phones have moved far beyond being "talking drums" (De Bruijn & Nyamnjoh, 2009), allowing a new communicative order, a second life for devices, transfer-

ence of skills, and circulation of digital content. These use patterns represent the choices people make about what is important to them and how they use technology to meet those needs. One choice might be the desire to embrace digital lives as a way to escape/express/imprint through multiple means of engagement with Internet technology. Another could simply be the sense of empowerment a self-managed ICT device gives in the digital era. A third can be the aspirational desire to participate in new opportunities that liberalization of the telecom industry is affording.

## Conclusion

We have seen low-income youth take enthusiastically to the mobile Internet. This article seeks to explain some of the underlying motivations in this uptake, motivations beyond the utilitarian or functional.

On one hand, while we recognize social, structural, and material inequalities constraining developmental opportunities; on the other hand, we do believe affordable and usable technologies can steer pioneering behaviors and a mindset of self-accomplishment. Empowerment, freedom, choice are all social categories that play out in a variety of ways in different contexts; however, central to all these concepts is a capacity to transform needs, wants, and desires into actions and outcomes that build individual and collective capacities. If any progress achieved needs to be evaluated to the extent it enhances the freedom of choice, then a constitutive element is its achievement through an active human agency. Hence, freedom, agency, and capacity-building mutually reinforce a person's opportunities and corresponding achievements in the context of his or her personal advantage (Sen, 2001, 2002). In our study, we suggest a deep inquiry into the interactional spaces of youth engagements with ICTs and their contribution to broaden the ICTD discourse by exploring what drives a specific user population to adopt technologies in specific ways, even if this use is restricted to the realm of entertainment. Another important question: Are the behaviors we observe due to the combined outcomes of a context of constraint and the desire for entertainment? Clearly, there is a link between context and use, and unraveling these can only support development research.

Adopting a narrow development lens can miss the actual engagements and ingenious strategies marginal populations use to integrate technologies into their daily lives. Here, seeking entertainment becomes a key behavioral tool to strategize technology use. Indeed, this may require us to broaden our view of how we think about what underlies a good ICTD research project and how we view a range of human behaviors as incremental to development. Rather than using the Internet to search for educational material, the youth in our study search for music and Bollywood teasers. These are hardly developmental in any conventional sense, but more akin to behaviors of youth in any part of the globe!

We set out to understand the intriguing uptake of the mobile Internet by a user population least likely to afford and access this technology. We also wanted to explore what lay in these paths of access and use. We are now led to view entertainment practices as not only incubating a space to experiment with technology, but also expanding digital literacies and skills. Without creating a binary opposition of development and entertainment, we do recognize these motivations for using the Internet are not *developmentally* configured. Education and learning skills, proficiency with typing, English spelling, writing skills, and even, as Omar believes, a heightened self-confidence are a consequence, not the premise of engagements with the mobile Internet. We believe it is a heady mix of seeking self-affordance coupled with preferred entertainment content as the driver of Internet behaviors; *developmental* benefits simply accrue along the way. We point to a reassessment of ICT engagements for entertainment as legitimate development terrain with real impacts, as opposed to setting up an artificial binary distinction between the two. This study presents a story about crafting the Internet anchored in a low-cost but ubiquitous access channel in the developing world. As mobile Internet technologies move beyond urban areas and the upper class who can afford them, it will be critical to see how the use of these transforms to include a spectrum of behaviors. No doubt what begins as entertainment can lead to more serious activities. Hence, the need to reexamine the stubborn positioning of entertainment- and development-related activity at opposing ends of the ICTD spectrum. ■

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