New artifacts – new practices:
Putting mobile literacies into focus

Abstract
The transformative relationship between people, culture and artifacts is vital for understanding digital literacies. This argument is approached through introducing the concept of mobile literacies which is indivisibly related to usage of mobile phones in cultural practices. Case studies concerning mobile phone usage in Bangladesh show that SIM-switching and missed calls have developed into powerful artifacts in people's lives through facilitating social needs and providing certain norms of communication. The article thus illustrates central socio-cultural aspects that we find important to consider in understanding digital literacy.

Introduction
Over the past few years socio-cultural perspectives on digital literacy have evolved. These perspectives represent a new paradigm that contrasts traditional views of exclusively considering literacy in terms of universalized and standardized competencies and functional skills to master (Livingstone, Van Couvering & Thumim, 2004; Erstad, 2005). Exponents of a socio-cultural paradigm are referring to the social multiplicity of literacy and that information and communication technologies (ICT) continuously require new forms of societal and communicative competencies (Lankshear & Knobel, 2006).

Based on insights achieved through a number of empirical studies concerning usage of mobile phones across various groups of people and cultures, we find the digital literacy debate imprecise. A central claim in our argumentation is that the digital literacy discussions often end up in what we consider as two problematic positions: First, the discussions do not sufficiently take the embedded quality of any artifact and its meaning for
mediation into account (Fjuk & Smørdal 2001; Berge & Fjuk, 2005; Berge & Fjuk, 2006)
Second, the transformative relationship between people, cultural practice and artifacts is
often neglected (Säljö, 2005). In line with socio-cultural perspectives, literacy must not
arguably be considered as universal sets of competences or skills that the individuals must
possess in order to be literate. In contrast, we regard literacies as socially and culturally
constituted as well as embedded parts of social practices and human development (Bar-
ton, 2007; Østerud, 2004; Buckingham, 2006).

The aim of this article is to demonstrate and discuss the two critical positions, but
with a particular focus on the transformative relationship between cultural practice and
artifacts. We introduce the concept of mobile literacies that is indivisibly connected to the
cultural and social norms that are developed through usage of a particular mobile tech-
nology or service. To demonstrate this important aspect of mobile literacies, we have
chosen to focus on a so-called emerging telecom market, Bangladesh. Such emerging tel-
ecom markets are particularly interesting since mobile users are currently at a relatively
early stage of mobile adoption and domestication, allowing us to document mobile liter-
acy as it emerges in the convergence between new technology and social practices. The
mobile market in Bangladesh has increased rapidly in recent years as the use of mobile
phones and operative systems has exploded. «The Village Phone Program» and the so-
called «telephone ladies» are perhaps the most publicized and well-known phenomena
related to mobile telephony in Bangladesh (TeleCommons Development Group, 2000).
By providing their communication services to unconnected villagers, telephone ladies
have been local mobile literacy promoters, offering not only assistance but also serving as
important role models. Arguably, their most significant contribution has been providing
the benefits of mobile communication to millions of women who would otherwise not
have access.

During the last few years, the widespread usages of SIM-card switching and missed
calls have emerged (Donner, 2007; Roldan, Thrane & Wong, 2007). The SIM-card switch-
ing (SIM-switching for short) implies that the mobile phone owner possesses several
SIMs, and alternates between using different SIMs and different operative systems. Fur-
thermore, missed calls are calls placed to a number where the call originator intentionally
hangs up the call before the receiving part answers the call. At peak usage intentional
missed calls constitute upwards of 70% of total network traffic, and constitute a huge
challenge for the various mobile operators causing network congestion and generating
zero revenue.

To approach the main aim of examining the transformative relationship between peo-
ple, cultural practice and artifacts, the following research guidelines were created:
• What characterizes the social practices of SIM-switching and missed calls?
• In what way can these practices be considered as aspects of mobile literacies?
During 2007 we carried out focus group interviews and semi-structured conversations with informants from different social groups in Bangladesh. By analyzing the data it became clear that SIM-switching and missed calls are two widespread practices that take place across age groups, gender and social status. Additionally, these practices have become important and integrated parts of communication and the daily lives of the Bangladeshis.

The structure of the rest of the article is: We will first outline the socio-cultural theoretical position on digital literacies. In the following section we discuss some methodological considerations. In the subsequent section we present key findings from the study. We conclude the article by discussing the findings thoroughly related to mobile literacies in particular and digital literacies in general.

**Theoretical position**

A socio-cultural view on literacy is influentially described by Scribner and Cole (1981) through their study of literacy among the Vai in Liberia. Scribner and Cole argue that literacy can only be understood in the context of social practices in which it is acquired and used:

> Literacy is not simply knowing how to read and write a particular script but applying this knowledge for specific purposes in specific contexts of use. The nature of these practices, including of course their technological aspects, will determine the kinds of skills (consequences) associated with literacy (Scribner & Cole, 1981, p. 236).

The growing body of literature on digital literacy is, however, vague concerning basic socio-cultural aspects presented in the early work of Scribner and Cole.

According to socio-cultural theories on human development, *mediation* implies that any human action is developed from, and therefore emulated by, our culture and the intellectual and physical artifacts herein (Vygotsky, 1978; Leontiev, 1983; Wertsch, 1991; Nardi 1996; Engeström, Miettinen & Punamäki, 1999; Säljö 2000; Säljö 2005). A culture cannot be reduced to an enumeration of people and artifacts. Rather, it is the specific transformative relationship between people and artifacts. According to Säljö (2005), development of any artifact is based on people’s particular needs, and is often based on people’s creativity and innovative capacity. This means that an artifact is not a dead or static object, but is continuously (re-)developed *and* used within specific socio-cultural practices. This vital aspect is elaborated in-depth by few in recently published literature on digital literacy.

The artifacts are understood not only as physical tools (e.g. a mobile phone or a PC), but also as different types of so called sign systems (Vygotsky, 1978) like natural and scientific languages, different types of mobile content (ring tones, an SMS or an MMS), and even...
genre developed through usage of a particular ICT service. Any artifact – a physical tool or a sign system – has embedded conditions that determine how a human action is performed as well as the outcome of the action (e.g. Leontiev, 1983). The unique qualities of an artifact thus influence the outcome and user experience of the mediation (Fjuk & Smørdat 2001; Berge & Fjuk 2005; 2006). This vital aspect of mediation challenges a neutral conceptualization of ICTs which is often manifested in e.g. concepts like internet literacy or media literacy (this is illustrated in more detail in the concluding section of the article).

In concluding the theoretical position, we argue that an individual’s digital literacy is dependent on how a digital technology is used, utilized and developed within a social and cultural practice. A key issue developed from socio-cultural theories is thus to understand the unique relationship between an individual’s artifact-mediated action and the particular context in which she acts.

Methodological considerations
The data analyzed in the present study was collected as a part of a more comprehensive study of mobile usage and users carried out in rural and urban areas in Bangladesh in 2007. The study focused on accessibility issues such as distribution and customer support, shared access to telecommunication facilities and the needs of remote and rural populations, as well as mobile behavior among youth, missed calls and SIM-switching (described in greater detail later). The study provides a unique overview of the challenges faced by mobile users and the novel approaches they have devised to address these challenges and master the new technology.

The main data material used in this particular study consists of 14 focus group interviews and semi-structured conversations with Bangladeshis from different socio-economic groups.

The focus group interviews were carried out in Dhaka in April 2007. These groups each consisted of eight respondents ranging in age from 18 to 55 and covered high, middle and lower socioeconomic levels. For cultural reasons each group consisted of either males or females. Participants were screened to ensure that they had been active mobile users for at least one year and possessed more than one SIM card from more than one mobile network operator. Since sharing of mobile phones is widespread in Bangladesh, a handset ownership requirement was not included. Participants were recruited by a local market research firm in accordance with the requirements specified above. All focus group interviews were conducted in facilities provided by the recruiter and enlisted the services of an experienced female moderator. Interviews were carried out in Bengali, the native language of the respondents. Audio recordings were made and translated transcripts subsequently provided.

Computer assisted telephone interviews were professionally and jointly conducted by TNS Gallup of 1600 multi-SIM users regarding their SIM-switching habits. The survey
included both open and closed answering alternatives. Respondents were male and
female ranging in age from 15 to 50 and were selected from all but the lowest socioeco-
nomic level. The only other criteria for inclusion in the sample were multiple-SIM own-
ership and self-reported use of more than one of their SIMs. To ensure a certain degree
of geographical variation and rural as well as urban respondents, 1200 respondents were
recruited from Dhaka (urban), 250 from Chittagong (semi-urban) and 150 from Khulna
(rural). This sample is not, of course, representative of Bangladesh’s population, but does
attempt – within the constraints of time and resources – to capture relevant variation.

In addition to focus group interviews and the survey, effort was made to observe,
interview and interact with a wide range of mobile users in more informal settings. Con-
sequently an important part of the data material is the researchers’ observations and
semi-structured conversations with countless respondents recruited in local markets, at
tea stalls, public call offices, cyber cafes and among craftsmen, small traders and retailers’. The semi-structured conversations were generally carried out in Bengali with simultane-
ous English translation.

Our primary focus in this article is the practices of missed calls and SIM-switching.
The analyzed data are extracts from transcribed interviews and conversations related to
these forms of practices. However, examination of the material as a whole provided an
ethnographic context for the analyses of selected extracts. By using interviews and con-
versations as our primary data material, we got deep insights into the mobile users’ point
of view and their reflection on their own practices. This means that the unit of analysis in
this study is the experienced meaning of people’s activities expressed through talk. The
analytic work was carried out in several steps (Kvale, 1996). We performed an initial anal-
ysis of the total corpus of data to get a substantial understanding of the participants’
reflections. Then the interviews and the semi-structured conversations were systematized
according to the issues that were the most frequent and significant among the partici-
pants. Relevant aspects were for instance establishing social communities, social control
and entertainment.

The issue of inter-subjectivity was attended to by discussions among the authors
related to categorizing the most frequent and significant issues, the interpretation of the
extracts and the analytical findings. Additionally the analyses and the key findings were
presented and discussed in a belonging research community.

Key findings from mobile usage in Bangladesh
Bangladesh has an estimated population of 150 million. Although mobile penetration is
roughly 13%, what sets Bangladesh apart from most developing nations is the extremely
high network coverage of 98%. This means that most of the country’s inhabitants poten-
tially have access to one or more mobile networks, but their financial circumstances do
not allow the majority to own their own mobile phone. Sharing scarce resources is therefore essential. Individual ownership of a mobile phone may be an aspiration shared by the majority of Bangladeshis, but most still share or use PCOs (Public Call Offices) to make and receive calls.

In the following sections, we will present some typical usage patterns and practices that illustrate important issues due to SIM-switching and missed calls and hereby provide an initial example of the cultural situatedness of mobile literacy.

**SIM-switching**

The practice of SIM-switching is common in all deregulated emerging telecom markets. SIM-switching refers to the practice of acquiring and systematically alternating between more than one SIM card from more than one mobile network operator. The typical SIM-switcher usually has a main or primary SIM and one or more additional SIMs, frequently as many as four to six. Although multiple-SIM phones and multi-SIM attachments that can accommodate from two to six separate SIMs are available for a limited range of standard mobile phones, switching usually involves turning off the phone, removing the SIM, replacing it with a different SIM and reactivating the handset. A respondent confides:

> It's not a pleasing thing to change SIM cards. It's very difficult to maintain three SIM cards…

![Figure 1: The typical SIM-switcher usually has a main or primary SIM and one or more additional SIMs (Photo: Per Helmersen)](image-url)
To take advantage of special campaign offers (reduced SIM acquisition cost) and to minimize call rates (e.g., weekends, between 00.00 and 06.00, etc.), switchers usually carry a collection of SIMs from different mobile operators. Some are used only occasionally. One SIM is usually considered to be the main number for a user’s relation to one or more social communities. Proficiency in SIM-switching presupposes access to and an understanding of a great deal of information from mobile operators. This information may be accessed directly from service centers or distributors, from billboards, public announcements and media.

Announcements are often made using a channel referred to as «mic-ing» – vehicles (cars, busses or rickshaws) with loudspeakers mounted on the roof, targeting shoppers, those without access to broadcast media and the illiterate. For many, however, word-of-mouth is a more trustworthy and accessible source of information on the best offers. Due to the inherent complexity of tariff information, family and friends are also relied on to decrypt and explain the pros and cons of various packages being marketed by mobile operators. Different sub-cultures (students, the emerging middle class, small traders) may also have a preferred mobile operator, frequently one who has targeted these specific

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Figure 2: Loudspeakers are used to advertise products and Telenor staff informs and educates the local population (Photo: Per Helmersen)
groups of people with promotional packages or lifestyle and «aspirational» advertising campaigns. Since mobile tariffs change and cut-throat competition among operators generates a never-ending stream of new subscription and service offerings, knowledge also has a limited shelf life. Having access to a network of mobile-savvy friends and family members is therefore crucial. Conversations in barbershops, markets and at the local tea stalls often transmit the needed background information (with varying degrees of accuracy), enabling users to make the right decisions.

Although SIM-switching is clearly price-driven, our research has uncovered various underlying principles that govern switching behavior. Usually revolving around family and social networks, the principles pertain to gender, seniority, reciprocity and feelings of social responsibility. Before choosing the right SIM, the user thus needs to take into consideration a wide range of factors such as on- and off-net rates, the most likely network her social network or family is using at any specific time of day, the type (duration) of the calls that need to be made, etc. Needless to say, the experience and expertise needed to solve this equation is considerable.

Apart from price consciousness and disposable income, the primary principle governing choice of SIM for outgoing calls seems to be consideration for the other party’s circumstances. As one respondent puts it:

I use the [GrameenPhone] one because most of my friends have GP [GrameenPhone] numbers. (…) And one of my cousins calls me from outside, so I use the Banglalink to talk to him. I have one to one with my friends, so I use it to talk to him and I use the Grameen one to talk to my college friends.

The gender principle also determines which SIM to use in certain situations. In accordance with cultural norms and under normal circumstances, the woman is not expected to bear the expense of a telephone call. She therefore sends a missed call (described below) and waits for the return call. A female respondent reports:

I give missed call to their number and they call back to me. I give missed call from Aktel to my husband’s GrameenPhone. So I don’t have any problem. I don’t have to think for my expenses.

The husband will recognize the number on his display and know that his wife is calling from the Aktel network, remove the GrameenPhone SIM he considers to be his primary number, insert the Aktel SIM and call his wife. He thereby saves money by placing an on-network voice call and his wife pays nothing.

Having purchased two or more SIMs from different operators, the next consideration is how to be reachable – specifically, how to inform potential callers that one is currently accessible for a certain period of time on a certain number which may or may not be one’s primary number. This is often accomplished by means of the missed call.
Missed calls

Intentional missed calls are calls placed to a number where the caller intentionally hangs up the call before the receiving party answers it. Under current price regimes mobile operators do not charge for calls that are not received. Customers are, naturally, aware of this, and have put the service to good use as a signaling system. The number of consecutive missed calls from the same number, their timing, knowing who they are from and any pre-negotiated agreements on how the missed calls are to be interpreted all make this a signaling system ideally suited for financially constrained communities.

To reduce cost, the intentional missed call has, in many ways, become the pager in emerging telecom markets. Missed calls are primitive and absolutely free ways of conveying messages – among them, «I am now reachable on this number if you need to call me.» However, saving money is far from the only motivation behind sending missed calls. There are practical motivations; sending a missed call is fast, easy and does not require that one knows how to write. Another motivation is entertainment needs. Friends compete in sending the highest amount of missed calls, and bored homemakers send missed calls when electricity is out and there is nothing else to do. In addition, there are various social motivations such as e.g. getting in touch with new people and communicating friendship.

The missed call practice is regulated by social norms. The relationship between the calling and receiving parties as well as background knowledge about their relative financial situation (who is more capable of paying) are essential components of basic missed call etiquette. A man does not place a missed call to a woman and expect her to return (and pay for) the call, students do not place missed calls to teachers, employers not to employees, etc. Nonetheless, if you know that the financial burden of a charged call would be significant for the calling party, you would be more inclined to call back rather than making an effort to pick up the call, regardless of status and gender. Failure to follow the norms regulating missed calling easily gives you an image as a cheapskate or someone who does not behave according to one's social status. When asked about whom one not sends missed calls to, an upper middle class man answered:

Drivers and electricians…it’s a matter of prestige.

The missed call culture is far richer than this, however (see also Donner, 2007). Missed calls are used for signaling anything from «Call me back» or «Pick me up.» (wife to husband) to «My father just went out and it’s now safe for you to call me» (girl to boyfriend). Multiple consecutive missed calls convey either urgency or the sincerity of one’s affectionate feelings, depending on the signaling codes that apply within a social relationship.

In Bangladesh, the act of having a conversation is in many contexts more important than the content. This meaning is embedded in the term adda, which has multiple mean-
nings, one of them being «the practice of friends getting together for long, informal and unrigorous conversations» (Chakrabarty, 2001, p. 124). Missed calls support a form of communication that shares some aspects with adda; constantly flowing communication that expresses community and sharing (expressive communication) more than instrumental information. One of our male respondents explains:

Suppose a group of my friends have met up without me – they’ll give me miss-calls to let me know they’re missing me.

This form of missed calling is thus modeled upon an already existing communication form.

In many cultures, missed calls constitute a private space where forbidden behavior (such as flirting) can either be practiced without public exposure and ridicule, or as an enabler and precursor for face-to-face meetings. With missed calls you can communicate without anyone noticing, and it is also easy to obscure who initiated the contact. Friendships may develop as a result of kill-time missed calls to random numbers, a common practice reported by youth. Missed calls and subsequent voice calls may also develop into something that can best be compared to chat relationships, not unlike those found in online chat rooms. The same phenomena found in chat rooms (misrepresentations of self, assumed identities, etc) are also found in these relationships. Missed calls may also evolve into romantic relationships and even marriage, or continue as long lasting telecom relationships using combinations of missed call and voice. One of our female respondents explains:

Once a missed call introduced me to another girl, who became my best friend and later on she married my brother.

Similar stories like the one narrated above were told in most of our focus groups. Some of them may be urban myths or wishful thinking, but regardless of the truthfulness, the assumption that missed calls may, if one is lucky, result in a romantic relationship is a driving force of the practice in itself.

At the same time as missed calling may be a way to bypass norms for proper conduct without getting caught, missed calls are also used as a tool for social control. Young couples send missed calls to each other both to check if the line is free (if not the other might have an affair with someone else) and to keep the line busy so he/she has less possibility to start a phone affair. Husbands expect missed calls from their wife at fixed hours as a signal that the household is running smoothly. Parents request missed calls from their children as a signal that they are safe when they are out with friends. As sending missed calls does not require that the sender has credit on her prepaid card, there are also no
valid excuses for refusing signaling with parents. Despite this being a disadvantage in situations where privacy is preferred by the youth, it is in other situations used by the youth to sidestep the parental control, as this story from a female respondent tells:

Once I attended a friend’s birthday party and came home late. I told my friend I’d give her one missed call to come to my place and help me if my father was angry. My father was very angry with me so I gave my friend a missed call. She came over with her mother to appease my father.

Missed calls also have the advantage that it is not easy for others to know who initiated the contact. A newly married woman is expected to yield to the control of her mother-in-law, and being frequently in touch with her childhood home may be frowned upon by her in-laws. A missed call from her to her mother means «Please call me,» and mom naturally replies with a voice call. The daughter thereby avoids her mother-in-law’s fury for calling her mother («But she called me!»).

Missed calls fill a multitude of communication needs, and in addition to this are free of cost. For that reason, the amount of missed calls is not likely to decline unless the telecom industry comes up with effective measures. Rather, we can easily imagine that the practice expands into even more sophisticated forms of communication.

As described, a missed call is used to alert family, friends and other potential callers that one now has access to a borrowed phone for a limited period of time. The social settings within which handset sharing occurs are frequently forums for the transfer of skill sets and general mobile literacy training. Novice users are introduced to mobile technology, trained in the required skills, informed about competing subscription packages and tariff options, and observe the most common cost-saving strategies such as missed calls and SIM-switching. Le Monde (2007) describes the new social space which has developed in developing countries:

The mobile phone is more and more used in a collective way (...) real collective strategies are developing, with teens often passing their phone on to their friends to take maximum advantage of the prepaid calling plans and the discounts these offer. (Joëlle Menrath in an interview with Le Monde, September 15th 2007)

Those who have not fully used their own discount options let others profit from it. In fact, these users often juggle with the tariff options of their close friends. They might take advantage of the free calling hours of one of their friends, or will choose a plan based on the plans that other friends have chosen. Sometimes, a group of friends might subscribe to different mobile operators so that they can extend their geographic coverage.

Borrowing a mobile phone is not the only option available, however. The ubiquitous PCO (Public Call Office) is often the first choice when a call needs to be made by those without a personal mobile handset. PCO operators provide assistance to customers who
lack the needed skills to place calls and send SMS in addition to a wide range of ICT services.

Figure 3: The ever-popular Public Calling Office (PCO) mushrooming at every corner of Bangladesh (Photo: Per Helmersen)

Since PCOs in Bangladesh generally offer lower rates than the majority of prepaid subscriptions, many handset owners also prefer to use them for outgoing calls. In a highly competitive telecom environment, PCO operators also offer services such as personal delivery of messages and fetching customers who have received urgent calls. The convenience and user friendliness of the PCO in densely populated commercial and residential areas compelled one of our respondents to say that he did not feel the need to own a mobile phone. In fact, the convenience and price advantage of the PCO may in the long run represent major barriers to handset acquisition and service uptake, especially in more densely populated urban and semi-urban areas where PCOs are located on every street corner.
Discussion and concluding remarks

We argued initially that discussions on digital literacy do not include two fundamental socio-cultural aspects thoroughly. These aspects are: First, the embedded quality of any artifact and its meaning for mediation. Second, the transformative relationship between people, cultural practice and artifacts. In the article, we have focused on the latter aspect through studies on SIM-switching and missed calls in Bangladesh, and the following research guidelines were created: What characterizes the social practices of SIM-switching and missed calls? In what way can these practices be considered as aspects of mobile literacies?

This section draws attention to these research guidelines. However, it also integrates discussions related to both of these socio-cultural aspects that we find critical for understanding digital literacy.

Concerning issues connected to the transformative relationship between people, cultural practice and artifacts, our studies show that SIM-switching and missed calls are two widespread practices that take place across age groups, gender and social status. Missed calls have evolved into complex signaling systems that mediate peoples’ actions towards a variety of social bonds: Maintaining and establishing communities, contact seeking and social control and transcending traditional social borders, and even entertainment. A common aspect across the different motivations is a joint understanding of how to use, and not use, the signaling system. As such, knowing the codes and practicing them is a vital aspect of being mobile literate. Concerning SIM-switching, knowledge about the cheapest rate and thus using the right SIM constitutes an important aspect of being mobile literate. When buying or selecting a SIM, one has to know whom one is going to communicate with, what SIM the others of one’s social communities are using, and what time she most likely will communicate with individuals of that community. When purchased then, a common SIM package becomes a kind of artifact itself that mediates the individual’s actions towards social communities that own and use the same SIM package.

The key findings point to some specific components of local mobile literacy. We maintain that a narrow focus on competencies and abilities to use a mobile phone, must be framed within a much broader understanding of mobile practices within social communities and with an emphasis on how they reflect financial circumstances, technical constraints and cultural norms. When considering mobile users and those who aspire to become users in developing countries, we must not view them purely from the perspective of their limited financial resources. Equally if not more important are the individual and social resources that allow mobile users to transcend the limitations imposed on them and make innovative use of mobile communication for personal and professional purposes. Thus, comprehending the nature of mobile literacy in developing countries entails, on the one hand, understanding the constraints imposed on the individual user by her financial circumstances, lacking education and literacy in general, regulatory restraints, cultural norms regarding what is and is not permissible and a wide range of technical
challenges, and, on the other hand, documenting the strategies that have evolved to overcome these constraints.

Although the behaviors and usage patterns observed among people in Bangladesh have also been documented in other Asian countries, Latin America and Africa (e.g., Chipchase, 2005), the findings cannot be generalized to all countries that may be defined as emerging or developing. Specific cultures and sub-cultures will not only contribute their own flavoring to the basic practices described, but may also generate entirely different and novel usage patterns and solutions to practical problems.

Lessons to be learned include that where there is a need and will to communicate there are numerous ways to overcome cultural, social, financial and individual barriers. This issue is also observed when one considers mobile literacies in so-called mature telecom markets like the Norwegian one. The usage of SMS and corresponding SMS behavior are excellent examples. Young Norwegians have acted as developers and pioneers of the SMS culture, through e.g. the creation of a unique artifact – SMS language – that is adopted by many adult users. The most common reason for the high usage of SMS amongst young people is that texting is relatively inexpensive and easy to budget for, and allows maintenance of social relationships in situations where other forms of communication are not appropriate. For young people, SMS has become a powerful artifact for mediating actions towards friends and parents, and most teenagers are emotionally, personally and psychologically attached to their mobile phones because of this particular opportunity (Ling, 2004; Oksman, 2006; Ling, 2007). A teenager who is not using SMS may not be considered mobile literate amongst her friends. Furthermore, mobile literacy may vary for different groups of adults: For example, a mobile literate grandmother may improve her competence to communicate with grandchildren through simple SMS and MMS usages (Fjuk, Berge, Hamnes, Holm, Jensen, 2006). For parents with children, though, the power of SMS lies in the practical usefulness of simple micro-coordination of e.g. picking up the children at daycare or leisure activities (Ling, 2006; 2007). Mobile literacy, for this particular group of people, may be completely different than for teenagers and other adults. The heterogeneity in SMS usage demonstrates our core argument that goes beyond country-specific cultures and social practices.

Concerning the vital socio-cultural aspect – the embedded quality of an artifact and its meaning for mediation – the complexity of mobile literacies arguably increases due to the rapid growth of mobile phones world wide and the new functionalities and services accessible from the mobile handsets. Services and content on the Internet that until recently have been accessed through PCs, are increasingly available through a number of mobile phones. Recent research shows that people do not yet use mobile Internet services more than once a month (van Veen 2006; Svendsen 2006; Fjuk et al 2006), however, young people continue to be innovative with more advanced services than SMS and voice. In the near future, young people’s mobile literacies will thus increasingly develop
beyond SMS usage and competencies, and include how to use new services across traditional media offerings. Such new ICT situations challenge a rather neutral conceptualization of digital technologies that to a large extent still dominates the international debate on digital literacy (see e.g. Suchman (2002). For example, accessing one particular Internet service through PC is a complete different action and provides completely different user experience than accessing the same service through a mobile phone. It is thus not sufficient to treat the wide specter of digital artifacts as a unified entity, but to consider each of them as unique means of supporting people’s need and motivation. As such, concepts like Internet literacy, media literacy and the like, become imprecise due to future converging technologies and media.

Mobile technologies and services are rapidly finding their niche and are more available for reinterpretations than other technologies (Ling, 2004). The reasons for use as well as the way they are used are in many ways more open than in the case of more thoroughly established technologies. Furthermore, mobile literacies vary according to how people identify themselves in terms of useful services and needs, life situation, culture and identity. Through putting mobile literacies into focus, we have exemplified such a socio-cultural meaning of digital literacies and have demonstrated the importance of considering the transformative relationship between people, cultural practices and artifacts.

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Noter

1 See e.g. Helmersen, Geirbo, Canright, Engø-Monsen, Ling, Bach & Weltzien, 2006; Geirbo, Prøitz, Jensen, Thrane & Johnsen, 2007; Geirbo, Kumar & Thrane, forthcoming; Roldan, Thrane & Wong, 2007; Roldan, Wong & Helmersen, 2007
2 The case studies on missed calls were conducted by the co-authors Per Helmersen and Hanne Cecilie Geirbo. The studies on SIM-switching were conducted by colleagues at TRICAP (Telenor R&I – Centre Asia Pacific): Grace Roldan, Andrew Wong and Kristin Thrane.
3 Retailers: Every call made on a mobile network (terminated as well as unterminated) generates a unique record in a database specifying – among other things – the caller’s number, the receiving party’s number, time, duration, location etc. In addition, detailed analysis of 310 million Charging Data Records (CDR) from a single day (24-hour peri-
od) in June 2007 provide a quantitative verification of some of our qualitative findings and may subsequently serve as a source of new hypotheses relating to patterns of mobile use. Specific findings from the CDR analysis will not be presented here, however. These will be reported in a future publication.

4 Critics claim that this complexity is intentional, making it difficult for customers to determine what service packages cover their needs in the most economical manner.

5 This may be viewed as a form of «proximate literacy» as defined by Chipchase (2006): «using the skills of nearby and friendly literate people». The concept seems to be derived from Basu and Foster’s (1998) distinction between the proximate and isolated illiterate – the former being someone who «lives in a household with at least one literate member». The distinction also reflects an awareness of the need to locate literacy not within the individual, but, rather, to view it in relation to the individual’s social surroundings and potential access to skills and information.

6 Common technical challenges in developing countries include limited mobile network coverage, limited access to power for recharging batteries, lack of roaming and interconnection between fixed and mobile networks, failure in used and reconditioned mobile phones, etc. The case studies were lead by Per Helmersen and Hanne Cecilie Geirbo.

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