

# Mobile Phone : A Tool for Expressing Co-actualisation

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## ABSTRACT

In this paper, we present an overview of the data collected from field studies of mobile phone use by Malaysian women who live in the United Kingdom. Through the data, we suggest that these women use mobile phones to help them coordinate activities in their everyday lives. Such practices, we claim, shape the way they are living in this everyday world. Their apparently mundane phone-mediated activities help support their everyday life activities, and these activities can help them become actualised in what they are potential. We found that their mundane phone-mediated activities are for other people as well – how they help support the need for self-actualisation of other people.

## Keywords

Mobile phone, human needs, women, Maslow's hierarchy, mundane phone-mediated activities, identity, co-actualisation

## INTRODUCTION

Ubiquitous computing (ubicomp) visionary, Mark Weiser (1993), suggests that technology must serve a real or perceived human need because the whole purpose of technology is to provide applications that serve humans. Studies show that mobile phone is used a lot for social activities (eg. Mackenzie & Wajcman, 1999), coordination of everyday life activities (eg. Ling & Yttri, 2002; Nordli & Sørensen, 2003), and safety purposes (eg. Palen et al., 2000).

Recent studies suggest that mobile phone can somehow be seen as a tool for expressing what the owner is like (Ling, 2003). Just in the same way that people employ "fashion" to express their identity, they consume mobile phone (Crane, 2000). There is at least a group of people who are conscious about the style of the mobile phone – the phone is not a mere tool for convenience, but an expression of identity (Katz and Aakhus, 2002).

In this study, we studied women, professional and married, between 30 and 40 years of age to learn more about how they used and related to the mobile. In this respect, our research was explorative. Is it for example true that their use is very similar to that of professional men? How did these women relate themselves to the mobile?

## FIELD STUDY

This paper draws on data from a two-week study of six Malaysian women, who are living in the United Kingdom. We were interested to know how they acquired their mobile phones and how they used their mobiles to project themselves. Among six women who were taking part in the studies, five of them were in full-time education and one was in full-time employment. These women were between 30 and 40 years of age and married, and have at least a bachelor's degree. This research employed qualitative procedures involving diary studies and interviews.

First we began our investigation with diary studies. We required our subjects to record their activities with mobiles everyday, in the diaries. However, we did not specify any format for the diary; therefore, it was entirely up to them how to report their activities in the diaries. As a result, we got a variety of diary formats – from a "bullet-point" to a "summarised activity" to a full-descriptive one.

Later, we carried out interviews with our subjects, not just for finding out what these women wrote in their diaries, but also wanting to understand how they became mobile users, used their mobiles, and would cope without mobile phones in their everyday lives. All of these interviews were done over the phone and lasted about 30 minutes to one hour. The phone interviews were semi-structured based on questions raised from early analysis of the diaries, and supplemented by additional questions raised by the discussions that took place during the interviews themselves.

## BECOMING MOBILE PHONE OWNERS

It is a common finding in studies of diffusion of technology that there is a temporal pattern of adoption, which is called the S-curve (Rogers, 1993). From this pattern, one may develop taxonomies of users, differentiating between pioneers, early adopters, later adopters, and laggards. However, it is also important to recognise that there has been considerable technological development in relation to mobile phones, and there are continuously new designs available. Thus, clearly, a mobile phone is something that may be bought again and again. As Nordli and Sørensen (2003) suggest that since many people could own several phones, there is

obviously a surplus which means that used mobiles may be a commodity or at least a potential gift.

The most striking finding from our study is what we call as “gendered pattern of acquisition” of the mobile phone. Five out of six women actually received their mobiles as a kind of “present”. Their mobiles were given by their husbands, very often a used mobile, because their husbands had got themselves a new one. This finding is parallel to the findings from the mobile studies with Norwegians (Nordli and Sørensen, 2003).

Regardless of how these women got themselves a mobile phone, it is always their husbands who decided the choice for them. Subject1 (S1) said, “My husband believes this phone is the one for me.”<sup>1</sup>

#### **BECOMING MOBILE USERS THROUGH PHONE-MEDIATED ACTIVITIES**

Both diaries and interviews raised numerous aspects of women’s use of mobile phones which were already reported in similarly focused studies, for example, how teenagers (Ling and Yttri, 2002) and adults (Nordli and Sørensen, 2003) use mobiles. However, in our studies, we found that these women categorised themselves as “heavy” and “non-heavy” mobile users based on how frequent they make mobile communications. Half of our subjects suggested that they were not heavy users because they seldom called or texted; and the other half claimed that they were heavy users for the same reasons.

From our study, we found that it is actually through their mundane phone-mediated activities that these women have become mobile users.

#### **Coordination of Everyday Life**

Ling and Yttri (2002) discuss in detail how mobile communication can be used for the coordination of social activity in young people’s lives. Their use of mobile communication allows for structuring and rationalising interaction between people especially in different places. Studies on text messages also suggest the same reason.

What was striking from our study is that these women actually used alarm, clock, calculator, calendar, and phone book, a lot for coordinating activities in their everyday lives. Note that while much of the study of mobile phone use focuses on its communicative and messaging functionality, our study shows that its PDA and other ancillary features are equally important for these users. In this section, we will show how these phone features can help these women coordinate their activities.

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<sup>1</sup> While this sounds very much typical behaviour of a male-dominated society, in fact the picture is far more complex than this. Within this community, many of the women are studying full-time and their husbands have put on hold their own careers to accompany and support their wives.

#### *Alarm*

Alarm is great for reminders. People use alarms for a lot of things – waking up, meetings, appointments, and other personal use.

Before S1 started any work, she would make sure that she had set alarm on her mobile. She needed something which could remind her of what she had to do next. Usually in the morning before she left home, she would make sure that her house was in a good condition. She said, “I like a nice, tidy house.” The only time she could tidy up the house is when her family was not at home. Since she was alone doing house chores, she could easily get carried away with it. So she needed something that can tell her to ‘stop doing whatever now’ and ‘study’. S1 said, “I need to ‘clock-in’ for my studies.”

Later she added, “I wanted to do lots of things in one day...but I just don’t have much time. That’s why I have to ‘time’ myself...so that I can enjoy a bit of this, a bit of that...you see, I like EastEnders, but I always miss it because television always plays it when I am in the office. Since I have Sky at home, I can watch the rerun; but someone has got to remind me about it. Well, I can ask my sons to do that, but sometimes, they are not around. So, I use alarm on my mobile to remind me, instead.”

Sometimes being a mother and PhD student can be tiring. S4 usually took a few short breaks during the daytime. She explained that being both a mother and PhD student was a hard work. As she told us, “I usually take short naps during the day, before I pick up my children from school. So I set alarm to remind me. When they are home, I have to focus on them.”

We also found that sometimes people set alarm not just for themselves but for others. As S6 said in her diary “...put alarm on for my kids. They wanted to wake up early!”

#### *Clock*

More often or not mobile phone was used as a clock, especially when these women were out and about. When we asked them a reason for their action, they often responded that it was there on the phone. Moreover, most of them did not have a wrist watch.

This evidence is clearly demonstrated when, for example, S2 used phone clock for telling time. She wrote in her diary, “I was waiting for a bus to go to the university. I checked on time on my phone, and then I looked at the bus timetable...Oh! I missed that bus. But the time on my phone showed that I was 5 minutes earlier...I was not sure whether the phone clock showed the right time. So I called my husband to send me to the university.”

S2 also mentioned about getting ‘intended’ missed calls from her husband. She explained in the interview, “When I received a missed call from my husband, I would then check the time on my phone. It tells me that I should get ready to go home. He’s on the way to pick me up”.

### *Calculator and calendar*

S6 used calculator function on her mobile to keep track of money - how much money her family had already spent and how much it was left. Later she would inform this figure to her husband. Very often she used the calculator together with calendar to keep track the number of days and hours worked in a month. She explained, "I really have to make sure that I've got the days and hours right, so that I can estimate how much money I should get for my pay this month." Later she added, "One day when I was browsing on Ebay, I came across this product. I like it. But I wasn't sure about buying it. So I used my mobile phone to calculate the total cost."

The use of phone calculator is more obvious especially when they were out and about. S3 wrote in her diary, "...went to SPAR with the kids...used my phone calculator...showed to them how much they had spent for that day...they need to be taught about how money should be spent..."

S2 also used her phone as a calculator when she went out for shopping. She said, "I have to make sure that the total amount should not be more than what I am supposed to spend."

### *Phone Book*

"One morning I received a call on my landline phone, asking for my friend's number. Since my mobile was with me, I just scrolled down through the phone book on my mobile to look for the number. It was quite troublesome, but it was better than going upstairs looking for my address book in my bedroom", told S1.

S3 informed us that she often received calls on her house phone from her husband, asking for their friends' numbers because those numbers were stored in her mobile phone.

### *Speaker phone*

At home, S2 would make 'talking on mobile phone' as a shared activity with her children, especially when talking to her husband or her parents. She would put the "speaker phone" on so that they all can hear people's voices and can talk at the same time.

### *Backlight*

S5 mentioned that it was important for her to check on phone battery every time before she slept at night. She told us, "My son was crying in the middle of one night. He lost his pacifier. I was very sleepy, and lazy to turn the bed light on. My mobile was under my pillow. So I used the backlight from my mobile to look for his pacifier. It was somewhere on the bed." She emphasised that her mobile was very important for her as an emergency tool.

### **How Mobile Phone Satisfies Human Needs**

From our study, we found that the more functional aspects of mobile phone support the higher order needs of these women. Their mundane phone-mediated activities actually support these women's needs by understanding the different roles played by these

women, for example, the role of a mother, a friend, and a student.

Twentieth-century humanistic psychologist, Abraham Maslow (1954), addresses human needs in a pyramid hierarchy that has five levels: the four lower levels are grouped together as deficiency needs associated with physiological needs, while the top level is termed growth needs associated with psychological needs. He describes deficiency needs as the basic needs that are most urgent early in life, and the growth needs as self-actualising needs or 'being' needs. He suggests that an individual is ready to act upon the growth needs if and only if the deficiency needs are first met.

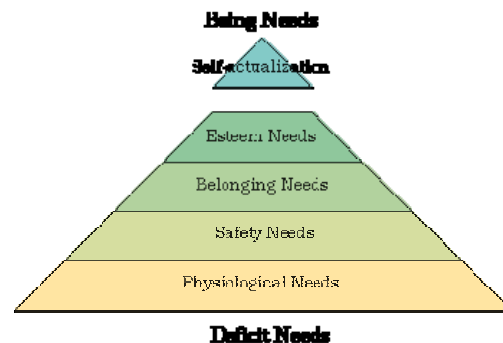


Figure 1. Maslow's Hierarchy of Needs

Through our data, we suggest that some of these women used alarm to help them find some time to relax, have fun, and even sleep. As mentioned earlier in the paper, S1 used alarm to remind her of her favourite TV programme, and S4 used alarm for taking short breaks from her daily routines. The needs for relaxation, leisure, and sleep are actually our physiological needs that should be satisfied to ensure healthy living in this world. Clearly alarm is a tool that helps support these women to satisfy physiological needs.

In Maslow's hierarchy, safety needs only come when the physiological needs have been met. Sometimes, the desire for safety outweighs the requirement to satisfy physiological needs completely. Very often people own a mobile phone for safety purposes, mainly for physical security reasons such as feeling safe from dangers and providing a degree of security for someone. For example, S5 knew the fact that she might be alone in the building that night, so she made sure that her phone was there with her all the time. She said, "I even bring my mobile to the toilet." S6 also used her mobile to check on her children while she was at work, twice in one hour.

Another type of safety need is financial security as shown in our data. Recall how S6 used mobile phone as a calculator to help budget for her family. In her case, it is important to ensure financial security for survival of her family so that they have enough money to pay for house rent, utility bills, groceries, and other expenses.

As cited in many studies, mobile phone proves to help support the need for love and belongingness. For example, text messaging makes a long distance relationship possible and thus, creating a new form of human communication. Other researchers found that of text messages containing some form of address, 66% used an intimate term such as “sweetheart” or “love” (Gamberini et al., 2004).

An advanced phone feature like speaker phone further enhances voice communication experience for example in a family setting. With speaker phone (refer to example by S2), we and our children can talk to and hear voices of our parents together, making it closer to the real human communication experience.

We want to stress that as we go higher through Maslow’s hierarchy of needs, apparently mundane phone-mediated activities are actually supporting or fulfilling higher-order purposes.

From the data, we suggest that these women strive to become the person they can be. So apparently their mundane use of clock and alarm in fact serves to enable a person to be self-actualised and achieve her full potential.

#### **Mobile Phone – a tool for expressing “co-actualisation”**

Swartz (2003) suggests that the mobile phone is an extension of one’s personality, and people respond, often making a conscious choice of the style of their mobile phone (Ling, 2003).

However, the choice of the style of these women’s mobile phones by was actually determined by their husbands. All of these women wanted a sleek, slim, and good-looking mobile phone, but most of the time, they didn’t get it. Although they might not really like the style of their mobile phones, they still used the phones for functional reasons.

Through the data, we suggest that their phone-mediated activities are very much related to who they are – a mother, a friend, a student. Perhaps this is the role identity that these women implicitly express through their mundane phone-mediated activities, rather than with the style of their mobile phones.

Identity is much linked to a set of behaviours or personal characteristics by which an individual wants to be recognised as a member of society. Therefore the need for self-actualisation is the instinctual need of humans. Maslow (1943) describes self-actualisation as the intrinsic growth of what is already in the organism, or more accurately, of what the organism is.

From the data, we suggest that their mundane phone-mediated activities help support the kind of person they can be. S1 learnt to manage her time properly for her everyday activities, so that she could spare and manage time wisely for her studies, family, and leisure activities. Alarm and clock are used a lot to help her manage her everyday activities; and these everyday activities are related to what she is capable of becoming.

She used to say that she wanted many things in her life – she wanted a stable career, a happy family, and a wonderful life. And she believed that she could do all that.

We also found that these women do things for others as well. Whilst much of this is about their families’ basic needs, the interventions are not restricted to this level and may also serve to support higher-level needs.

For example, S6 used to set alarm for her sons to help them wake up early in the next morning. She said that in order to encourage good behaviours from her sons, it had to start from her. She had to do something to help them become who they wanted to be, in this case, the boys wanted to a morning person. This is explicitly recognising the contrast between the mundane activity of setting an alarm and what it achieves for the person.

Another example is when S1 shared a short, sweet text message with her friend who was in trouble. She believed that this message could ‘enlighten’ her friend as it did to her when she was depressed. As well as supporting practically the self-actualisation of family and friends, the means of communication offered by the phone are used more directly.

This supports results of more detailed study of one woman’s use of mobile technology. One of the unexpected results of this was the importance of these short devotional or encouraging messages, both received and passed on (Razak and Dix, 2006). Such messages are simultaneously acting at all three upper levels of Maslow’s hierarchy: they are expressions of affection “I’m thinking of you”, they serve to define a social role of friend, confident, or even mentor, but moreover, they serve to build up the recipient, to help grow as a person.

In short, their apparently mundane phone-mediated activities help support both - the kind of person they can be and the kind of person the other people can be. Thus, helping oneself and others become capable of becoming in what they are potential is referred to as co-actualisation.

#### **CONCLUSION**

Past studies have shown that mobile phones can help satisfy human safety and social needs – love/belongingness. From our study, mobile phones can be used to help support human higher-order needs such as the need for esteem and actualisation. Their apparently mundane phone-mediated activities implicitly express who they are – a mother, a friend, a woman, a professional – and they strive to be the best persons they can be in their lives. Their mundane phone-mediated activities, again, have shown that they support other people to become actualised in their potential.

#### **REFERENCES**

- Crane, D. (2000) *Fashion and its Social Agendas: Class, Gender, and Identity in Clothing*. University of Chicago Press, Chicago.

- Gamberini, L., Spagnoli, A., and Preto, P. (2004) Temporal structure of SMS-mediated conversation. CHI2004, Time Design Workgroup. Wien, April 25.
- Katz, J.E. and Aakhus, M. (eds) (2002) *Perceptual Contact: Mobile Communication, Private Talk, Public Performance*. Cambridge University Press, Cambridge.
- Ling, R. and Yttri, B. (2002) Hyper-coordination via mobile phones in Norway, Katz and Aakhus, eds., 139-169
- Ling, R. (2003) Fashion and vulgarity in the adoption of the mobile telephone among teens in Norway. In Fortunati, L., Katz, J.E. and Riccini, R. (eds), *Mediating the Human Body: Technology, Communication and Fashion*. Lawrence Erlbaum, Mahwah, NJ, pp. 93-102.
- Mackenzie, D.A. and Wajcman, J., (1999) *The Social Shaping of Technology*. 2<sup>nd</sup> ed. Open University Press, Buckingham.
- Maslow, A. H. (1943) A Theory of Human Motivation. *Psychological Review*, 50, 370-396.
- Maslow, A. H. (1954) *Motivation and Personality*, 2<sup>nd</sup> ed., New York, Harper & Row.
- Nordli, H. and Sørensen, K.H. (2003) How adult men and women become users of mobile phones. SIGIS.
- Palen, L., Salzman, M. and Youngs, E. (2000) Going wireless: Behaviour and practice of new mobile phone users. CSCW 2000. ACM Press, 201-210.
- Razak, F. H. and Dix, A.J. (2006) Bespoke personalised design that works for others. To be published at NordiCHI 2006. ACM Press.
- Swartz, K. (2003) Style ranks high in cellphone design. *Knight Ridder/Tribune Business News*, 10 November 2003.
- Weiser, M. (1993) Some computer science issues in ubiquitous computing. *CACM*, 36(7):74--83, July 1993. In Special Issue, *Computer-Augmented Environments*.