Abstract

This paper reviews the amazing emergence of the use of mobile communications devices in Indonesia. The evident shows that the mode of communications using Simple Message Services is highly absorbed by the society. Moreover, it is widely used as the common communication medium.

It is evident that this technology helps of the community problem in big cities, in which the traffic jam, distance, and time limitation are some of the major concerns. It has been found that the use solving some mobile communication is highly correlated with the culture inherited in the society, in which the extended family life and extensive communication are the main problem which needs to be solved. We argued that the globalization of technology will find its equilibrium and the judgment of which technology will survive will be very much dependent on the local culture and values perceived by the society in the country. This is the matter of the survival of the fittest and the fastest.

1. Introduction

In the last ten years, mobile communications become a popular alternative for information delivery. In Indonesia alone, in the year 2002, the number mobile communications subscribers are 9,783,260 over 210,211,000 population with revenue of 13.3 Trillion Rupiahs. This is close to the fixed line revenue of 27.49 Trillion Rupiahs. During March-April 2004, 10 Millions new mobile phone numbers have been sold in Indonesia. The number of mobile communications subscribers is expected to significantly exceed the number of fixed phone subscribers in the near future. The price of connecting through different mobile communication operators varies significantly, and based on the Telecommunication Regulation no 36/99, the government regulates only the tariff formula and let the operators to independently decide their communication price. Despite the explosive growth of the use of mobile communications and Internet, users

2. Mobile communication development in the world

(technology and its timeline)

There are questions as to how well mobile communications will help bridge the digital divide, life-cycle thinking, how working conditions are protected within our own company and in our supply chain, and how we can make mobile communications universal while respecting local economies and cultures. Mobile communications can make a significant contribution to sustainable development through building social networks, making access to information easier, stimulating the economy and showing responsibility towards the ecology.

- Building social networks
  Personal communications is perhaps the most obvious benefit of mobile communications, with the mobile phone being used to build and maintain relationships in increasingly diverse ways; between friends or children and parents, for people in need of help, for communities that have not had widespread access to telephony. The mobile phone gives people a voice.

- Making access to information easier.
  No longer just person to person, mobile devices put people in touch with information, convey news at it happens, at home and abroad.

- Stimulation of economies
  Mobile communications contributes to the efficiency of companies - logistics, marketing, internal communications. Furthermore, the mobile phone has proved a valuable tool for small companies and entrepreneurs. New service concepts, also in the public sector, have grown up around mobility, for example, those based on SMS.
• Responsibility towards nature

Digital communications offers the chance to decrease use of raw materials and energy. For instance, electronic transaction and storage reduces the need for travel and transportation; smaller products mean less raw material and some new services do away with physical products altogether, as in the case of the answering machine.

Done in the right way, these benefits outweigh potential negative effects or public concerns, such as the risk of a growing digital divide, concerns about health issues, stand-by energy consumption, waste and recycling, and questions about globalization and changing lifestyles.

On New Year's Day 1985, Ernie Wise made Britain's first cellphone call. Now, less than two decades later, most people in this country have a mobile and every sixth person in the world owns one. They have launched revolutions, saved lives, destroyed relationships and, of course, spawned a whole new genre of utterly pointless communication [4].

3. Mobile communication in Indonesia

Maximizing the benefits of mobile communications and minimizing potential negative effects requires the commitment by governments, civil society and the business sector. But we recognize, that as market leader with global operations, Nokia has a major impact on society. With a mobile phone market share approaching 40% and approximately every third phone in use from Nokia, our products influence the lives of hundreds of millions of people. Through our whole value chain, from sourcing, product design, manufacture and employee well-being to business partnerships, recycling, community involvement and communications, we affect employment, social well-being and economic development. Through our product life cycle we impact the ecology. Through employee relations, supply chain management and consumer offering we influence human rights. Our stakeholders expect that we produce high-quality, safe products while upholding the law, protecting the environment, and following ethical best practice.

4. Technology and Culture

Cultural and Social Impact of Mobile Technologies

A panel of experts and activists discussed the social impacts of mobile technologies, be they wireless connection to the Internet (WIFI) or mobile phones and the opportunities they offer for development. The first session of this meeting organized by GLOCOM (Center for Global Communications, International University of Japan.) was dedicated to the social impacts of these new mobile technologies on individuals and larger groups. The second session addressed their potential for social and human development in developing countries.

Session 1: Social impacts on individuals and groups

This session paid particular attention to cell phones, their evolution and social impacts. Why cell phones rather than the Internet? For 3 very simple reasons: almost everyone has a cell phone; you always have your phone on you, in your bag or near you at home; the cell phone is mobile, i.e. it moves with you everywhere … The Internet on the other side needs to be linked to a PC. Moreover, many cell phones now offer internet options.

Various interesting comments were made during the presentations, which will be looked at in turn: the evolution of cell phone services; the culture of ‘moblog’ and the reactions to the phenomena of mobile technology; how do mobile technologies affects us, our ways to socialize and to learn; and finally another more down-to-earth approach of the effects of mobile technologies in developed countries and the difference with developing countries.

- Evolution of mobile services.

First of all, evolution is linked to the fact that cell phones have a short life cycle, varying between 18 and 24 months, when you move on to another contract and/or change phone. In the early 90’s, cell phones were quite exclusively used for voice calls. However, operators saw the possibility to develop a new market attached to the voice call services and started coming up with new services, such as SMS, MMS, games. One of the most successful has been the customization of ringtones and logos (1999). What is interesting is to search the reason for the success or failure of a new service. The conclusion is that it is not solely a response to price and marketing. Indeed, rather than being linked to the economics, success is tied to social behaviors:

- Customization: your mobile is yours, and it is differentiable from the mobile of others because you choose the logo and ringtone which most identify with you.
- Trend effect: especially important for the young generation. If you have available the latest services, or you have the latest version of Nokia, you are cool and trendy.
Community effect: you develop for example codes of language used in SMS, you have a ringtone taken from an Eminem’s song which mean that you belong to a group rather than another. Another interesting point is that we are in a transition period where content is no longer as important and leave the forefront of the scene to interaction and a new form of socialization. Before, the service was very much linked to the content it offered so you could bring what you like or what was trendy in life to your mobile (like music in ringtones, etc) and you also adopted a brand for example which created a sort of personal relation between you and your mobile. Nowadays, the emphasis is being put on interactive service, such as online games where you and your friend play one against the other, each one from his mobile.

The culture of moblog and the reactions to the phenomena of mobile technology.
We first went back to the Latin roots of mobile, mobile vulgus, which means ‘excitable crowd’. And we cannot deny that mobile communication created a new dimension into our social lives by shaping new kinds of relationships (between individuals and between the individual and the crowd) and by bringing a new sense of speed and connectivity.

The focus of the presentation was the moblog culture. So what does moblog mean? In simple terms, a blog, originally on the Internet, is a personal site, commercial or not, on a set of topics, which is regularly updated and posted in reverse, chronological order. The important aspect of a blog is that it reduces the size of content from a webpage to something very small, a post. So a moblog is a mobile blog, one that is updated on the go, through mobile communication devices, very frequently with camera, displaying photos or video clip (pick up media on the fly). We could also call moblog a participatory media where publication and context are in the hand of many and affect how we define journalism. It is important to look at the new ramifications for reporting as whenever you share your own experiences, your photos, you provide a context around that photo, around that event, defined by you.

The quality of the moblog culture is that it allows better and richer ways to share our stories and experiences in a digital and connected world. It is interesting to see that the moblog culture is also subject to evolution as it used to be personal in nature, for example taking pictures and sharing what we see, and it is now becoming more political. For example the Howard dean’s campaign in the US or the ‘flash mob’, very trendy this summer, where you send a message to a large number of people telling them to go to a library and ask for a book which does not exist. Moblog are also very important politically in the Philippines.

The second part of the presentation tried to describe the consequences of what happen when ‘excitable crowds’ are free to do what they want? On the one side, you have the utopian vision meaning that mobiles are going to improve our face-to-face existences by never getting lost; media is for the people and by the people; greater access to people will enrich our lives through sharing experiences; will change positively our ways of working. On the other side, the dystopian supporters are asking why people cannot turn off their computers anymore or switch off their cell phones to be together and communicate one in front of the other, thus moving towards a culture of ‘mutual avoidance’ and also the fact that there is very little filtering and therefore the quality of information received and shared is more like a mess or a jungle.

The conclusion was that it is up to us to choose towards what vision of society we are heading. Of course, the decision will start at an individual level but it will join larger groups as we, as individuals, operate in groups.

How do mobile technologies affect us and our ways to socialize and to learn?
Some of the key aspects of the times we are living in are the innovation in digital technique and the popularity of portable ICT devices as well as their personalization; the growing value of information which is timely and on the go (overload); the speed of connectivity and of transmitting information. Perhaps one further key aspect is the importance of being mobile, living in a world where technologies are becoming an extension of ourselves.
So how can we account and further prove the importance of being mobile nowadays? By the quantitative approach: in 2002, there were more mobiles than fixed lines, and this as a global phenomenon, with data across countries, gender, economy, age, etc.
But perhaps the most relevant analysis is the quality associated to being mobile and the social effects associated to this quality. First of all, there is the physical proximity between users and their mobile at all times of the day and night (using mobile phones as alarm clocks, new design of mobile phones wrist watch, etc). According to a study, we are usually less than one meter away from our mobile phones. There is also the personal and emotional attachment as we cannot live home without our mobile, and it also
contains a lot of information (addresses, phone numbers, etc). Thirdly, it is becoming part of our identity as we personalize it with stickers and ringtones. Some phones even use finger prints instead of passwords, others can double a game console or tell women when they are ovulating in their menstrual cycles, and one of the latest trends is the transforming of mobiles into jewelry. Another aspect is that the private and public spheres are no longer clearly divided but the private is becoming public as we are reachable anywhere at anytime (i.e less isolation) for example, and the public is also becoming private as for example there is a continual connectivity (we remain in touch with the people we love even if we are in a crowd).

So now, what can be said about young people and mobiles? They create their own subcultures by text-messaging more than older people. Mobiles are very trendy and very popular, and young people are subject to peer pressure for certain brands and to belong to mobile ‘cliques’. Mobiles can be used for educative matters like in South Africa where a teacher is using SMS for multiple choice exams, SMS being very cheap. However there is also a literacy concern with abbreviation being used for text-messaging and therefore losing spelling knowledge.

Two main issues were addressed in the conclusion: Are we bridging social distances by always being reachable … or is that leading to a misplaced social multiface as in fact, doing various things at the same time mean we are never really there and concentrated. The second point was that we need to raise awareness on this topic because mobile technologies have breaks – humanity and self-reflection- and accelerators – technologies and speed- and we are the ones choosing which to use.

Effects of mobile technologies in developed and developing countries.
Rich Fuchs, director of IDRC/CRDI (Canada), believes that wireless technology has various negative effects: it makes us more work and produce more, our attention is weakened, the separation between work and leisure is reduced as well as the delimitation between home and work. Indeed, how many of us check their mails once they come home from work and then end up spending lots of time on their computers? And how many of us stay reachable for important work matters even though they are on vacation?

This is to describe the effects of wireless technology on the individuals and society in developed countries. Being at the WSIS, we all talk about the necessity of making technology available to the whole world. But we forget that it is not because technology exists that it is going to be exported quickly and that changes will come along very fast. Indeed, it is not about technology, it is about governments’ will and changing societal organizations and culture. Nonetheless, he believes that effects of wireless technology could be much more positive in developing countries, in part because there is no need for electricity or telephone lines, commodities often lacking in those countries, and because wireless technology will be at the centre for their economic development and their lives.

Furthermore, there is a close link between wireless technology and sustainability. Indeed, in developing countries, access to mobile technologies can help produce smarter. For example, a farm in Africa used the Internet to become sustainable and increase selling and therefore revenues. In Uganda, 98% of the country is using cell phones, to express their political view on TV shows for example. The reason for not having the connection between wireless technology and sustainability in the developed countries is the fact that we live in a society based on consumption, and therefore over-production, which breaks the cycle of sustainability.

Session 2: Potential for social and human development
Mobile technologies are responsible for a real revolution occurring in the developing countries where the landscape is being dramatically transformed by bringing into the communication sphere part of the population who was so far excluded. The second half of the session was therefore devoted to demonstrate innovative and interesting use of mobile technologies in the peripheries, that is in developing countries, through analysis and case studies that show how technology affect the life of people and how it can be used positively to create opportunities of development.

Among the case studies presented, Kenya is a very good example of how mobile phones can be used to give relevant information to poor peoples in rural areas and through this information give them opportunities that will improve their lives. Among the challenges of this project were to get communities to participate by saying which content and information were relevant to their needs; and to make sure the project will become self-sustainable within 2 years. The context was already established as there are 1.8 million users of mobile phones in Kenya compared
with only 520,000 internet users. Moreover, SMS were used in many occasions, such as for political parties to send messages before the 2002 elections, to respond to TV polls or to give information on market prices for farmers. The ‘Mobile Pilot Concept’ was to create the first mobile health and jobs information service for Kenyans, two key areas that can transform their lives. Thus they get to know what job opportunities there are and where to go and they can access health quiz on HIV/AIDS with immediate corrective answers and punctual information on other health matters. This project is becoming sustainable because there is a nominal subscription fee (2 cents, so affordable by all) and selected advertisers help funding free messages, meaning that the revenue generated from paid-for content will subsidize free service. One question remains concerning its sustainability: the mobile phones themselves as the ones for the pilot projects were given, but this difficulty could be overcome by ‘recycling’ old mobiles that people leave aside when they buy a new ones. Another important aspect of this project is that it helps reaching some of the Millenium Development Goals. For example, Health quiz and tips on HIV/AIDS and other diseases participate in preventing and spreading information on this matter. Jobs and information on farming and credit facilities increase access to opportunities for income and therefore participate to reducing poverty. Gender mainstreaming in resources and content ensure that content addresses the unique information needs of women and men, thereby contributing to gender equality.

Another analysis, this time in the Philippines, made us better understand and measure the possibilities associated to mobile phones and SMS services in eGovernance. Just to evaluate the context, let’s look at some statistics: at the end of 2002, there were 16 million cell phones in the Philippines, meaning that 1 Filipino in 3 uses cell phones as opposed to 3.5 million internet users. 94% of cell phone users send messages via SMS and 1 million messages are sent per day, primarily for greetings and for families and friends. The question studied was: Can we use SMS in eGovernance as a tool for citizens to make demands to their government and for it to be accountable? 100% of government agencies have websites, but this service only addresses a narrow population as expressed in the numbers above, and 54% propose SMS based services so it is on these SMS services that the study is based. Out of the services used, 47% call to complain, 42% for getting information and 38% for other services, including access to the direct line of the Secretary.

The conclusions are the following:
- SMS are a new channel for traditional activities: use of SMS instead of telegraph, use of SMS instead of calling the police
- SMS are an information provider to all Filipinos (spread in many islands and in the rest of the world) such as for employment opportunities, etc.
- SMS are a complaint mechanism
- It is a novel way of getting compliance as paper receipts are not being used
- They enhance internal operations, which have always been complex due to the thousand islands making the Philippines, by for example easily check if supplies paid for have been sent or delivered, etc.

In short, SMS are a way of getting citizens to participate and governments to be accountable and transparent. Moreover, governments pay nothing and Filipinos are the ones paying to complain and to get governments to take into account their opinion, and they are willing to pay for this service. Policy issues that still have to be addressed are the creation of portals so the service becomes manageable, considering there are more than 300 government agencies; enhancing e-linkages within and among agencies; and increasing public awareness on those services. Nonetheless, SMS being such a cheap service, the trend studied will continue to improve and is going to contribute even more to the eGovernance trend already in place.

5. Discussion

Some topics and recurrent themes need to be thought of and further discussed. Among them was raised the question of regulation of wireless Internet in developing countries, and how regulations could block the promotion of development initially possible with mobile technologies. Indeed, mobile phone operators were charged, but the regulation was very light which is why there is a big development of mobile phones. But will that also be the case with wireless Internet?

Another controversial issue concerned wireless infrastructures in developing countries. Indeed, it is easy to create ‘home-made’ connections to the Internet by using what was referred to as ‘Supermarket open technologies’, i.e buying cheap component available in supermarkets to create amplifiers such as empty tins for example. Of course, this option has advantages because everyone would have the capacity for building infrastructure for personal use, and it will empower privacy initiatives as well as community networks. However, this would also result in a delayed deployment of ‘required’ and ‘legal’ physical infrastructure that are supposed to be the result of
public investment. It was agreed that not much was done by governments to fulfill their role by providing basic infrastructure, but if there are private initiatives, won’t the government do even less? So the question is what quality of service of wireless do we want? What is the real goal? Connectivity, universal connectivity or affordable connectivity?

One last comment concerned the possibility of ‘distributing’ the Internet for free on the developing countries. But can that option be seen as realistic when much money is being made out of the Internet, and the market is so huge for the years to come. Considering the option that the Internet would just not be free, a suggestion was to put together some of the wealth of the developed countries to pay for developing countries so they would have access to free Internet and there would therefore be true universal access, reminding all of us of the highly discussed topic of funding.

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6. Conclusion
Mobile telephony is without doubt one of the most explosive developments ever to have taken place in the telecommunications industry. By the end of 1990 there were just 11 million cellular subscribers world-wide; eight years later that figure had jumped to 320 million and is now forecast by the ITU to exceed 550 million by the end of next year. Penetration rates in the Nordic countries were close to 60% by September 1999, led by Finland (63%), Norway (58%), Iceland (56%) and Sweden (53%).

Mobile growth around the world has also been nothing short of astonishing. China posted an 87% combined annual subscriber growth rate from 1995 to 1998, with other major economies like Brazil (82%) and South Africa (67%) not far behind.

For the world’s poorest countries, cellular telephony and wireless local loop systems represent the best chance yet of bringing the power of telecommunications to economically disadvantaged or isolated communities. Cambodia, for example, is one of only half a dozen countries in the world where cellular subscribers already outnumber fixed-line subscribers.

Without doubt, mobile telephony offers enormous advantages – added convenience, greater personal security, and the ability to take advantage of ‘dead’ time to do business on the move. But the picture isn’t all rosy. Like most young technologies, mobile telephony is experiencing its share of teething troubles, including concerns about environmental impact, health and safety, and, of course, the social changes being wrought by a technology which, by making us permanently contactable, is having a profound effect on our interpersonal interaction.

A Steel-and-Concrete Jungle

Many cities around the world are becoming blighted by a gaggle of ugly mobile antennae, which spoil once-pleasant views, detract from the authenticity of historical areas, and exacerbate the often already overwhelming presence of intrusive urban infrastructure such as electricity poles, telephone lines, traffic management equipment and signage.

Predictably, environmental complaints have been the loudest in developed countries, where zoning laws, property rights and environmental obligations are often more strictly enforced, and where reliable access to a range of communications services is, in any case, largely taken for granted. Communities in developing countries are, conversely, often so grateful for modern communications infrastructure that they are happy enough – for the moment at least – to turn a blind eye to environmental aesthetics.

In order to avoid problems with environmental groups and local communities – which can be potentially costly in terms of both legal fees and delays in network roll-out – many equipment manufacturers and operators are now working on ways to reduce the environmental impact of cellular antennas.

In the Central Business Districts of large, modern cities, the problem is relatively easily solved by simply integrating a large number of small antennas into the facades of tall buildings. In suburban and semi-rural areas, on the other hand, the large, steel-grey structures needed to support larger cells are harder to hide – yet some operators have nonetheless come up with innovative solutions. In South Africa, for example, at least one operator has taken to camouflaging GSM towers in tropical palm trees – with surprisingly successful results. Elsewhere, the tall spires of churches and cathedrals are being used to hide antennas, representing a positive solution for both the general public and the religious organizations which suddenly
find themselves with profitable antenna-site rental on their hands.

**Etiquette for the Modern Age**

When it comes to the undesirable side-effects of an increasingly ‘unwired’ world, poor mobile phone etiquette is today without doubt the world’s biggest collective gripe. Many companies and organizations are now taking active steps to cultivate more socially acceptable use of mobile phones, among them many of the biggest cellular operators and leading equipment vendors. Most, in fact, have now produced booklets on mobile etiquette, and have a policy of asking their own staff to turn off their phones while in meetings. At Harrod’s, in London, shoppers are asked politely to turn off their phones as they enter the store. And many entertainment venues now make announcements before the beginning of each performance asking members of the audience to switch off before the lights go down. One of Europe’s bigger mobile operators recently took the offensive by launching an advertising campaign aimed at encouraging more responsible and considerate use of cellphones. The campaign, which began with a series of cinema advertisements reminding people to turn off their phones before the movie, is targeted at people who not only take calls in socially inappropriate places, like restaurants, live entertainment events or churches, but speak so loudly that everyone in the immediate vicinity is obliged to listen to their call. This intrusive aspect of mobile telephony recently prompted a columnist in the *New York Times* to publish an article denouncing the technology as the ‘real’ Y2K virus. Aside from being scathingly critical of the growing number of people inconsiderate enough to inflict their calls on other restaurant diners, theatre-goers and the like, the article pointed to a more insidious problem – the tendency for mobile technologies to lead to overwork and exploitation. Indeed, growing numbers of cellphone users can frequently be heard to complain that their company now expects them to be available virtually 24 hours a day. Always contactable has come to mean always available, to the point where people are finding work taking over their evenings, weekends and even holidays.

**A Complex Dilemma**

While most handset manufacturers say the answer to this problem is simply to turn off the phone, this simple action can be a hard one for many people, especially in times of increasing stress at work. Older employees fear being considered out of touch with new working methods; younger staffers fear being passed over for promotion in favour of more ‘wired’ colleagues.

Solving problems of etiquette and over-connectedness requires action from two separate camps. Mobile users need to become more aware of the fact that being interrupted during a face-to-face meeting or social engagement, or having to listen to loud conversations that don’t concern them, is a source of annoyance to most people. Mobile phone users should turn their handsets off whenever receiving a call would be inappropriate – for example, in any public place where others are in close proximity, at religious services, funerals, weddings, or in quiet places like nature reserves.

New technologies like GSM’s Simple Message Service (SMS), call diversion and voice mail, and discreetly vibrating cellphones leave little excuse for bad manners. In an exceptional case when taking a call in company is unavoidable, users should excuse themselves before answering the phone, and then go to a quiet place where they can sort out their business in private.

The second camp is companies – and this means colleagues and immediate bosses, not just senior management. Companies need to accord a greater amount of respect to employees’ right to personal time. Ideally they should define a corporate policy on out-of-hours calls, and ensure staff stick to it. Not only will a responsible, respectful policy on mobile phone use keep employees happier and more motivated, it will ultimately translate into greater efficiencies, since staff who don’t fear constant interruptions are more likely to make themselves available to deal with a real emergency.

**Health Issues**

While evidence remains inconclusive, there remain concerns about the frequent use of mobile phones on human health. The potential impact of the kind of electromagnetic fields generated by cellular phones on the human brain has received little attention until relatively recently, and it’s probably still much too soon to pronounce on the possible adverse effects of long-term exposure.

The little – and inconclusive – research undertaken so far has nonetheless hinted that excessive exposure to electromagnetic fields (EMF) could cause such undesirable effects as memory loss, Parkinson’s and Alzheimer’s diseases, and even brain tumours. An Australian study published in 1997, for example, suggested that transgenic mice exposed to signals similar to those emitted by a cellular phone were up to twice as likely to develop lymphomas. A UK study, meanwhile, found that mobile phone use could affect the nerve cells responsible for short-term memory, while a study carried out in the Nordic region linked...
excessive use of mobile phones with headaches and fatigue – symptoms which generally disappeared as soon as cellphone use was discontinued. But so far the lack of hard data has meant scientists have felt themselves unable to pronounce favourably or negatively on the effects of heavy mobile phone use – apart from meting out (unintentionally) amusing advice such as the recommendation which appeared in a UK newspaper last year: “If you use a mobile phone a lot, you need your head examined.”

In an effort to garner some concrete evidence about the possible effects of widespread long-term mobile phone use, the Geneva-based World Health Organization (WHO) has initiated the International EMF Project, designed to provide a reasonable risk assessment of the dangers of frequent exposure to radio frequency fields. In what is the largest long-term study ever undertaken, EMF researchers will spend the next few years working with the International Agency for Research on Cancer, a WHO specialized agency in Lyon, examining 3,000 head and neck tumour patients. The typical mobile phone use of this group will then be contrasted with the cellphone habits of 3,000 tumour-free control patients, to determine whether any correlation exists. The results of the study, along with other investigations into other possible non-cancerous side effects of mobile phone use, are due to be evaluated in 2003 and 2004.

For the moment, many operators and manufacturers are playing it safe and recommending that users take precautionary action, such as alternating ears every few minutes during a long call, or taking advantage of new, low-radiation antennas and phone chips. Separate earphones and microphones are also increasingly widely used, as a way of keeping the possible radiation effects further away from the brain, as well as allowing hands-free operation of the phone.

**Safety in Numbers**

When people are talking on a mobile phone, they’re often paying less attention than they should to what’s going on around them. This can be dangerous in certain situations, such as around building sites or – particularly – when driving a car. One extreme case, which came to light on the international press wire this summer, told of a man picked up while driving in the Israeli town of Netanya with a mobile phone glued to each ear. The man had become so engrossed in his conversations that he had taken to steering with his elbows – and was flagged down by a policewoman who had noticed his car weaving treacherously from side to side. While this is an exaggerated example, the use of mobile phones while driving is considered sufficiently dangerous by many governments that it is banned in at least a dozen countries, including Australia, Austria, Denmark, Hungary, Italy, Latvia, Portugal, Poland, the Slovak Republic, Slovenia, Spain and Switzerland.

**Social Outcasts – or New Freedoms?**

The problem of social alienation is perhaps the hardest to pin down, yet is potentially one of the most destructive results of a world over-reliant on wireless communications. Sociologists are already beginning to note that many people, especially those under 30 years old, are spending a great deal of time speaking to people they are not with, at the expense of those who are actually there. A telling example comes from Finland, which has over 60% mobile penetration. There, entire groups of young people sitting together are frequently seen to be talking on their mobile phones to absent friends and colleagues.

It’s the ultimate in social alienation, and indicative, say some, of a trend which threatens to eat away at our sense of social cohesion. Whether it’s the novelty of the technology or our simple need to feel wanted, the human brain seems to register incoming electronic signals as inherently more urgent and important than the interpersonal signals coming from a fellow human being in front of us.

Team this with an almost universal desire to avoid personal contact – witness the popularity of every kind of impersonal invention, from e-mail and the Internet to automatic teller machines – and it’s clear that alienation could prove a serious side effect of a technology whose selling point until now has often focused on slogans like “It’s about communications between people” or “Connecting People”.

On the other hand cellular telephony has brought great and new freedoms for youngsters – and increased security and peace of mind for their parents. It is now possible for young people equipped with cellphones to stay in touch with their parents and for parents to stay in touch with their children. This can help reduce or eliminate the need for meaningless restrictions on young people that were only in place because of parents’ anxiety as to their childrens’ activities or whereabouts. Costs need not even be a major issue, since these can be controlled through the use of pre-paid cards.

**A Thought for a Digital Age**

Aside from yet-unanswered questions relating to health, the positive use of mobile technologies lies largely in our hands – in the hands of government, when it comes to environmental issues and safety regulations; in the hands of operators, who can do much to ensure the smooth integration of the technology into our society, both in terms of equipment design and aesthetics, and through initiatives which help train people in mobile
phone etiquette; in the hands of employers, who can take pains to ensure staff with corporate mobiles are not abused; and ultimately, in the hands of users, who need to cultivate a greater level of awareness and work to ensure that their phone use does not negatively impact the lives of those around them.

With a little effort on everyone’s part, the benefits of mobile connectivity should serve to enhance our experience of life, offering us more freedom, and ultimately creating a better society in which people really do feel closer together.

8.1. Second-order headings

As in this heading, they should be Times 11-point boldface, initially capitalized, flush left, with one blank line before, and one after.

8.1.1. Third-order headings. Third-order headings, as in this paragraph, are discouraged. However, if you must use them, use 10-point Times, boldface, initially capitalized, flush left, preceded by one blank line, followed by a period and your text on the same line.

9. Footnotes

Our Role in Society

'Mobile communications and pervasive computing technologies, together with social contracts that were never possible before, are already beginning to change the way people meet, mate, work, war, buy, sell, govern and create.'*

This comment by futurologist Howard Rheingold is widely echoed. But while any observer can see and feel the changes that mobiles have on our lives, actually measuring the impact is altogether more difficult. There is considerable research under way and Vodafone has embarked on a far-reaching study to help find answers.

Meanwhile, there are clear indicators of the potential impacts of mobile phones on society. Their popularity and success is based firmly on the obvious benefits to most people, businesses and our economies. The challenge is to ensure that the benefits are spread as widely as possible while minimising negative impacts. Here we look in more detail at the social impacts of mobiles, and how they help to bring greater efficiencies for business and add value to the economy.

There are also social, health and environmental concerns about mobile telephones, which are covered in detail in the rest of our CSR Report. These range from worries about radiation from handsets and masts, and waste created by frequent model changes, to limiting access to adult material and the dangers of using handsets while driving.

Gaining a better understanding

'Early signs are that the impact of mobile telephony on society will be profound. Understanding the consequences is fundamental if mobile service providers are to take their responsibilities seriously,' says Professor Diane Coyle, chairperson of Vodafone’s socio-economic impact advisory panel.

Vodafone has started a programme of research into the socio-economic impact of the mobile, covering the developed and developing world. An advisory panel of experts, chaired by Professor Coyle, will scrutinise the programme. The first meeting was held in February 2004 and the aim is to complete some of the initial projects before the end of the year.

Proposed studies include: examining the socio-economic effects of mobiles in Africa; the use of mobiles in improving patient care and productivity in healthcare services; and how mobile telephony affects developing countries in attracting foreign direct investment.

The advisory panel members are:

Allen Hammond, Chief Information Officer and senior scientist, World Resources Institute.
Professor Heba Handoussa, adviser to the Economic Research Forum for the Arab Countries, Iran and Turkey.
Alan Knott-Craig, Chief Executive Officer of Vodacom.
Ed Mayo, Chief Executive of the UK National Consumer Council.
Brian Pearce, formerly Director of the Centre for Sustainable Investment at Forum for the Future and now Chief Economist at the International Air Transport Association.
Professor Leonard Waverman, Chair of the Department of Economics at the London Business School.
Professor Diane Coyle of Enlightenment Economics and University of Manchester (chairperson). [6].

References


[3] Impact on Society,
http://www.nokia.com/nokia/0.8764.5562.00.html
February 2004

[5] The Social Impact of Mobile Telephony,