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new horizons

3/2006

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Asia-Pacific market profile: Subscriber numbers keep growing

Linguistic diversity: Broader access through language support

Combining mobility with banking in South Africa

Mobility brings **Socioeconomic benefits**

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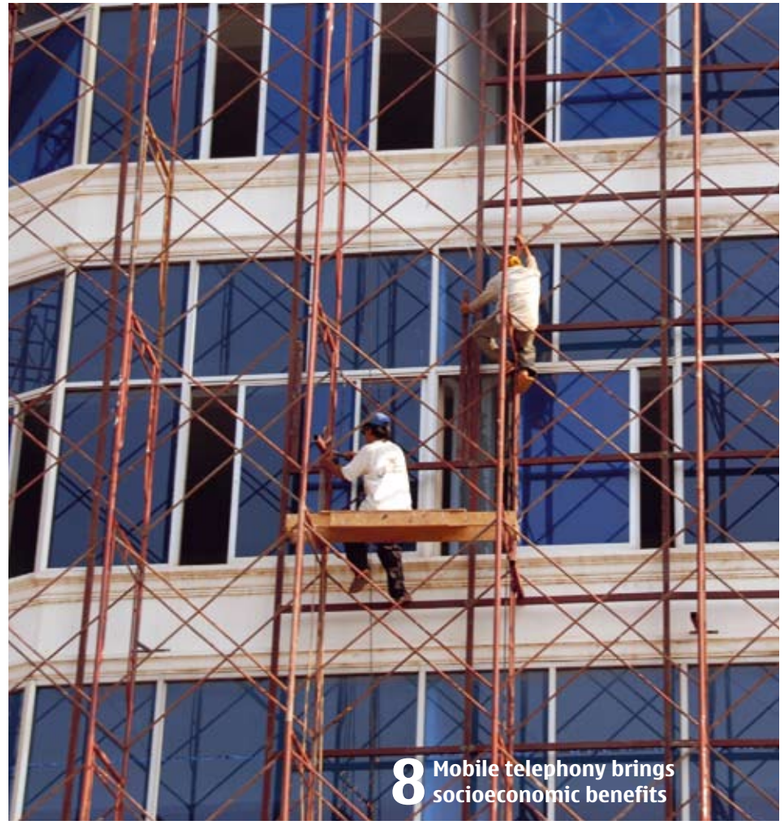

8 Mobile telephony brings socioeconomic benefits

EDITORIAL

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GAINING ACCESS to information, maintaining business contacts and avoiding unnecessary travel – these represent just some of the benefits of mobile communications for citizens in new growth markets. Our lead story describes the socioeconomic advantages that mobility provides.

With mobile phones increasing people's productivity all over the world, we can say that "mobility" refers not only to mobile communications, but in a broader sense also to upward economic mobility. Research by London Business School has found that a 10 percent increase in mobile penetration leads to GDP growth of 0.6 percentage points.

Another article explores how mobile phone language support is progressing and helping mobile communications expand in new growth markets. As more customers become able to utilize mobile devices in their own mother tongues, a greater number of people obtain the full benefits of mobility.

We also talk to top mobile operators about innovative mobile banking services and about how policy-makers can further competition and improve penetration rates at the same time. Enjoy every page of this issue of New Horizons!

Rauno Granath

Søren Petersen

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Mobile data in demand

In a December 2005 survey by Pyramid Research, Brazilian mobile subscribers showed more interest in using mobile data services than did subscribers in China, India and Russia. Participants talked about data services such as mobile internet and mobile TV, including whether they were interested in using the services, and at what price.

More Brazilians indicated that they would consume mobile data than did respondents from the other countries. Russians are prepared to spend the most, with an average of 4.23 US dollars a month. Subscribers in Brazil and China are willing to pay approximately four US dollars, and Indian subscribers would pay 1.50 US dollars.

The recent football World Cup and other major sports events serve to increase demand for mobile TV. All four countries offer great potential for the sale of mobile data content, infrastructure and terminal equipment.

Photo: © Xinhua/Gamma/ISKOV

Major sports events such as the World Cup increase demand for mobile TV.

Latin America going strong

It is predicted that the Latin American region will add 100 million new mobile subscribers by 2008. This will bring mobile penetration to 60 percent, from about 40 percent at the start of 2005.

The Southern Cone – Argentina, Chile, Paraguay and Uruguay – has attained 58 percent penetration as a result of well-developed Argentinean and Chilean markets. In April 2005, Brazil broke the 90-million-mobile-subscriber mark and achieved 49 percent penetration. It now edges out Japan to form the world's fifth-largest country as measured by number of subscriptions; only China, the US, Russia and India have more.

On a smaller scale, the Dominican Republic added nearly 300,000 subscribers in the first quarter of 2006 to surpass 43 percent penetration, while Peru added 500,000 for 22 percent penetration.

Source: Business News Americas and Dow Jones Newswires

→

ICT inroads in agriculture

Farmers' Information Communication Management, a project of the Uganda National Farmers' Federation, is helping get information to farmers in remote areas of the country. Several districts can now access vital weather and farming data. In the Kayunga district, which contains some of the nation's most inaccessible villages, farmers are also making use of village phones to access market information. This enables farmers to increase their bargaining power with the middlemen effectively and make sure the crops are sold at a fairer price. By finding buyers in advance, the farmers also avoid unnecessary transportation expenses formerly associated with searching for a purchaser.

Sustainable tourism and telecommunications overlap in a "camouflaged" cellular tower

Cellular towers in disguise

Tourism forms one of the largest industries in the world, and in recent years "sustainable tourism" has gained importance. It means developing tourism in a way that respects and complements the local culture, environment and economy.

Here sustainable tourism and telecommunications overlap: A trend exists toward "camouflaging" cellular towers so they blend in with the landscape, allowing both locals and tourists to enjoy beautiful surroundings and good mobile phone coverage.

In early 2006 on the Caribbean state of Dominica, telecommunications company Cable and Wireless installed a hurricane-resistant cellular tower that looks like a palm tree. "Customers are now able to enjoy the mobile experience while commuting through the dense forestation and at our natural scenic attractions," says Mr. Nabeel Bhatti, CEO of Cable and Wireless. At the same time, the company "works with the nature concept of the country."

Quick growth stats

A study of 18 Arab countries revealed that cellular operators added 34 million subscribers in 2005 to bring the regional total to 85 million. Fixed-line subscriptions increased by only 2.4 million.
Source: Arab Advisors Group

The Central and Eastern European mobile market is forecast to grow by 10 percent annually to be worth 58.4 billion euros in 2011. Mobile penetration will rise from its current 66 percent to Western Europe's present level of 96 percent.
Source: Analysys

The global total of mobile subscribers will hit 3.5 billion by the end of 2010, predicts Pyramid Research, while Market Intelligence Center forecasts 3.3 billion. Both agree that Africa, the Middle East and Asia will be important growth areas.

India has exceeded the 100-million-mobile-subscriber level and continues to race closer to Russia, which currently has about 140 million subscribers. The US has approximately 220 million, while China checks in at more than 400 million.
Source: estimates by Informa Telecoms and Media

Mr. Ekwow Spio-Garbrah, CEO of the Commonwealth Telecommunications Organization (CTO), discusses social and economic development in new growth mobile markets as the CTO Annual Forum approaches.

How to harness communications potential

What is the CTO's role among policy-makers, regulators, businesses and civil society?
The CTO is the only international organization that brings together stakeholders, policy-makers, regulators, businesspeople and civil society. Any organization focused on the development of the worldwide information society can become a member.

The CTO facilitates the exchange of information and ideas and, as a result, the development of ICTs. Its services include research and knowledge building; training and capacity building; consulting and advice; and ICT-focused commercial events.

How does the CTO envisage the role of mobile technology and broadband in reducing the digital divide?
A growing body of evidence, some of it from the CTO, indicates that the exponential growth of mobile telephony helps facilitate good governance, business and socioeconomic development. Africa, for example, has seen huge mobile telephony growth at same time as an increase in overall economic growth, now at 5 percent annually.

Broadband could provide similar or greater benefits than mobile telephony, but the high cost of the services in new growth markets is still a problem. With further added-value mobile services such as 3G, the CTO expects mobile phones to progress from being the lead option for connectivity to forming a viable platform for broadband provision. Reducing costs to the consumer and increasing reach are fundamental to making mobile broadband a feasible option for bridging the digital divide.

How successful has the CTO been in influencing the telecommunications environment over the past two years?
The CTO has been instrumental in strengthening the policy, regulatory and operational capacities of our member countries, regulatory agencies and operating companies. At the macro level, we helped prepare African and Asian stakeholders to effectively participate in the World Summits on the Information Society. With work on convergence, we have helped stakeholders come to terms with monumental changes in the telecom environment. Helping the telecom sector accept that it is a part of the wider ICT sector has been an important achievement, especially considering the resistance to such a large shift in a strongly established paradigm.

Our research continues to influence policy-makers – one example is the 2005 study "The economic impact of telecommunications on rural livelihoods and poverty reduction." The CTO Alternative Dispute Resolution Center, launched in 2005, assists ICT players in quickly and economically resolving their inevitable disputes, so that these differences do not impede industry development.

At the micro level, we catalyze change. In our Program for Development and Training, for example, thousands of ICT professionals have gained expertise that has improved the competitiveness of many companies.

What role do you see other entities, such as operators and equipment vendors, playing in introducing basic voice services to people with lower incomes?
I note with satisfaction the efforts of the private sector to make connectivity available to an ever-increasing proportion of the public, including entry-level handsets and pro-poor tariff structures. More importantly, the private sector must recognize the commercial potential of consumers at the bottom of the economic pyramid and cater to them.

What are the current challenges in the development of universal access?
Investors in some countries are wary of universal service obligations (USOs). In some markets that have found it difficult to attract telecom investment, policy-makers and regulators have decided to limit or give up on USO. Nevertheless, USOs and universal service funds (USFs) remain potent tools to ensure equitable provision of services to areas that would otherwise be forgotten. USOs and USFs form one milestone in a transitional process – their applicability ends when the market matures. ■

The theme of the 2006 CTO Annual Forum, September 4–6 in London, is "Harnessing the potential of mobile communications." More information at: www.cto.int/forum06

market profile

Asia-Pacific's growth continues

New Horizons profiles the Asia-Pacific market, where a combination of rapid economic growth and relatively low penetration rates means that about half of the next billion mobile subscribers will come from the region.

Mobile industry analysts put the worldwide total number of mobile subscribers at approximately 2.2 billion at the end of 2005. Various forecasts estimate future subscriber numbers at anywhere between three billion by 2008 and four billion by 2011.

The Asia-Pacific (APAC) region is experiencing higher growth in overall numbers of subscribers than any other area, a trend that is expected to continue in the foreseeable future. A robust, growing mobile sector directly equates to higher economic growth for the region. In a recent article entitled "The real digital divide," The Economist cited published studies, noting, "Plenty of evidence suggests that the mobile phone is the technology with the greatest impact on development."

Surging mobile growth

Of the 1.8 billion new mobile subscribers expected to sign on to mobile networks globally between 2006 and 2011, a full one billion of them will come from APAC. Nonetheless, the region includes a range of mobile markets. Bangladesh, China, India, Indonesia, Pakistan and Vietnam are in the early growth phase, whereas Australia, Hong Kong, Japan, Malaysia, Singapore, South Korea and Taiwan have achieved penetration of more than 70 percent. Consequently, most of the increase in subscribers in the APAC region will come from a small group of national markets with large populations.

The expected brisk development in APAC will form the result of a number of factors: rapid wealth creation through comparatively high rates of GDP growth, coupled with existing low mobile penetration rates.

The pace of progress across APAC countries will also be heavily influenced by the actions of national regulatory bodies, and by the availability of entry-level mobile phones and low-cost infrastructure solutions. One of the key metrics determining the speed and extent of new subscriber growth will be the total cost of ownership (TCO), which includes the service fee, taxes and the mobile handset price. Excessive licensing fees, import duties on telecoms equipment, taxes on mobile services and interconnection fees among operators can increase TCO and create a potential barrier to increasing the number of new subscribers.

It is worth noting that consumers in the APAC countries with the lowest GDP have only one-tenth to one-twentieth of the average per capita income of consumers in the member nations of the Organization for Economic Cooperation and Development (OECD). To reach the next billion subscribers, mobile providers will have to gain ground in areas where income levels are as low as 50 dollars per month and telecoms spending capability per consumer may be as low as three dollars per month.

Key engines

China and India are, without peer, the two largest growth markets in the APAC region. Both are primed for continued steep growth because of their big populations, high GDP growth rates and relatively low penetration rates.

China, with less than 30 percent mobile penetration among its 1.3 billion people, offers tremendous room for additional expansion. With GDP growth expected to continue hovering between 8 and 9 percent over the next few years and a youthful population that is fast embracing new lifestyles that complement mobility, there is fuel for growth.

In India, new mobile subscriber additions have also skyrocketed because of exceptionally strong economic growth, though changes in government policy have also been credited with catalyzing investment in the nation's mobile communications sector. The replacement of high fixed-license fees with more reasonable revenue-based fees, the introduction of the calling-party-pays model and the licensing of new operators have collectively led to a drastic reduction in mobile tariffs. Consequently, monthly subscriber additions have been running at nearly two million, and an astounding 130 million new subscribers are forecasted to sign up on mobile networks between 2006 and the end of 2010.

Photo: Juha Salminen

Experts expect high GDP growth and low mobile penetration rates to result in brisk development for the APAC area

Indonesia offers another example of a low-penetration market with enormous growth potential. In a population of some 245 million, only 15 percent have opted for mobile telephony, though the number of mobile subscribers has doubled since early 2004. Again, the enormous growth rate in mobile telephony is largely attributable to strong GDP growth, currently trending at approximately 6 percent annually.

Indonesia is expected to account for 10 percent of all new mobile subscriptions in APAC during 2006. The introduction of prepaid cellular services on the Indonesian market has substantially impacted the ability of lower-income groups to afford mobility and today accounts for the vast majority of cellular subscriptions.

Aiming even higher

In major APAC markets where cellular services have been well established but not yet reached saturation levels, the outlook for continued growth is also positive. In Thailand, mobile penetration is just under the 50 percent mark, but a combination of innovative service offerings, entry-level handset models and price competition among service providers is helping extend mobility ever further into rural areas. By 2010, mobile penetration is expected to reach approximately 80 percent.

The Philippines has a profile similar to Thailand's: penetration has just surpassed the 40 percent mark, with expectations of reaching 70 percent by the end of the decade. Over the next four years, both countries are expected to maintain mobile growth rates of between 14 and 18 percent annually.

New growth markets across the Asia-Pacific region will be ones to watch in the coming years, as they seem set to continue their growth. ■

Photo: Juha Salminen

Mobility for a better world

As mobility continues to grow around the world, it also contributes to the socioeconomic development of new growth markets – sometimes in surprising sectors.

Each country, each culture, is using mobility in unique ways to improve the lives of its citizens; no single user case could represent all the diversity. However, a common issue links all the examples: increased productivity at a national level. A study by London Business School concluded that an increase of ten mobile phones per 100 people translates to an impressive 0.6-percentage-point growth in GDP.

Although individual and national examples are unique, there are identifiable trends in how people are obtaining the benefits of mobility and becoming more productive. These include being reachable, avoiding travel, gaining access to information, using the mobile phone itself as a business, and performing financial transactions where airtime is exchanged instead of money.

Staying within reach

Often the first sector to be spurred into action by the mobile revolution is native industry, with thousands of individuals becoming self-employed as soon as they get a mobile phone. For a small business owner in a new growth market, being accessible to customers is a huge benefit. Even those who do not have an office or storefront can put up a simple sign by the side of the road, announcing their services and contact numbers.

As for getting a job, it's the same all over the world: who you know is just as important as what you know. Workers who take informal employment – often seasonal jobs – and have a phone are easy to reach when work is available. Their numbers are saved in employers' contact lists, bringing continuing value to both parties.

Using airtime as currency allows greater participation in the economy by people who do not live anywhere near a bank

Beneficial connections

Especially in rural communities, people may spend hours every day traveling to the next village to visit family or friends, or simply to get needed information. Even without seeing loved ones face-to-face quite as often, people in Tanzania and South Africa have reported improved relationships as a result of being able to call them more frequently.

A reduction in travel time also brings benefits to farmers, who used to travel great distances just to find out that the fertilizer they needed was out of stock. They can now save time by phoning ahead, leaving more hours for planting and harvesting.

Photo: Juha Salminen

Good for business: Mobile phones help farmers keep track of the market prices for their crops.

Information access

People who get connected to mobile communications gain beneficial knowledge that is not available as quickly or dependably by any other means. Farmers and fishermen with mobile phones can use SMS messaging to find out the current prices for their crops. This influences the autonomy of their businesses enormously, as they can effectively increase their bargaining power with the middlemen and make sure the crops are sold at a fairer price.

Other areas where mobile communications provides information include healthcare and personal security, though these do not form the most obvious benefits of mobility. It becomes possible to call a doctor or relative in an emergency, something that is simply taken for granted in developed nations. Some clinics have also set up automatic SMS systems to send reminder messages to patients when they need to take their medicine, ensuring more effective treatment of ailments such as malaria and tuberculosis. Meanwhile, citizens who live in less secure areas – or areas prone to natural disasters – can receive emergency warnings by SMS.

Mobility supports business

Some entrepreneurs in new growth markets are using the mobile phone itself as the basis for a new business. Many villages traditionally had one person – usually a woman – who would write and read letters for other village inhabitants. These days, the letter-writers are likely to spend more of their time typing SMS messages and selling airtime.

A 2005 study by Vodafone found that in Tanzania, for every person who owned a mobile phone, there was also a non-owning user who borrowed, bought or traded airtime from another mobile phone user.

Elsewhere in Africa, Nokia and the Grameen Foundation USA are utilizing microfinance to help bring affordable, →

accessible telecommunications to rural villages in Rwanda and Uganda in an initiative called Village Phone. Tiny loans help people start self-sustaining businesses that make affordable telecommunications available to the communities.

Time is money

Airtime is also making its way into new growth economies as a kind of currency. Basic financial transactions involving airtime constitute a major part of mobile phone usage in developing communities in Africa. In many locations, stores will cash airtime or accept it as payment for goods, even for small purchases such as milk or bread.

Airtime transactions are enabled by operator services that allow the transfers, or by the exchange of codes listed on prepaid airtime cards. Using airtime as currency allows greater participation in the economy by people who do not live anywhere near a bank. It also forms a convenient way to send money to relatives living in other parts of the country.

Mobility: the way forward

Bridging the digital divide has long been at the top of every socioeconomic development agenda, and an increasing number of studies and reports are confirming that universal access to mobile communications is the most effective way to achieve it.

Many governments have realized how important access to mobile technology is to their citizens. In India, for example, the universal access policy has been backed up with financial support for mobile telephony infrastructure.

Meanwhile Pakistan has chosen to concentrate on mobile coverage, improving information access to as many people as possible. As a consequence, Pakistan's Ministry of Information Technology and Telecommunications reported an increase of 22.6 million mobile phone connections between 2003 and February 2006, compared to just 1.95 million additional fixed telephone lines.

Mr. Ilkka Lakaniemi, a Nokia senior manager and a well-respected economist in the academic world, comments, "The people I have met in Asian, African and Latin American countries are all looking into how mobility can be used to reduce poverty and how they can use mobility to go beyond their traditional challenges and provide access to information for all."

"It is part of a sincere quest for a more equal society," he concludes. ■

Photo: Juha Salminen

Affordability is the key

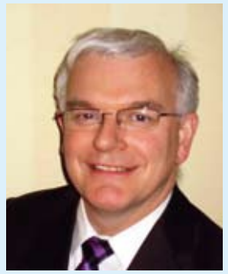
When local entrepreneurs are using mobile phones to get ahead of the competition, operators barely need to convince anyone that mobility is worth it. According to a February 2006 study by MTC Telecom on the socioeconomic impact of mobile phones in the Arab world, the top driver for buying a mobile phone in Jordan and Tunisia, both new growth markets, was business, followed by personal and emergency use.

As people in new growth markets reap the benefits of mobility, the key challenge to achieving universal access is affordability, which is determined by three main factors:

Total cost of ownership (TCO) of mobile communications consists of the service fee, taxes and mobile handset price. A recent GSM Association report shows that mobile penetration is significantly related to TCO – the lower the TCO, the higher the penetration. However, the same does not apply to the handset price, as it represents on average less than 15 percent of TCO. Unless the service fee – more than 70 percent of TCO on average – and taxes also decrease, a lower handset price alone does not relate significantly to higher penetration.

Cash barrier to get and stay connected: Lower-income consumers tend to have less cash in hand, so even though they may be willing and able to spend five to ten US dollars a month on mobile communications, they may not possess that amount for a one-time payout. Innovative ways to tackle the cash barrier for both handset and service include microfinance of handsets and lower denominations of prepaid top-ups.

Regulatory environment is also crucial. Independent regulatory authorities fostering free markets and healthy competition allow governments to combat mobile growth inhibitors, including high customs duties, handset sales taxation, service taxation and inefficiencies in service tariffs. Compliance with international technology standards enables leverage on global scale benefits.



Mr. Neil Gough, international policy director for the Vodafone Group, talks about meeting challenges in rural new growth markets.

Competitive rural access

Why should rural access matter to policy-makers?
This has very little to do with telecommunications itself, but everything to do with economic development and ensuring that all citizens stand to benefit as developing economies grow.

Economic activity depends on information. Without communications, people are not just deprived of information, but also excluded from the ability to participate in the economic system. So it is clear that communications is an integral part of a developing economy.

How do you answer the common question, "How can people with lower incomes possibly afford telecom services, since they spend all their disposable income on food and fuel?"
This question assumes that income levels are fixed, but that is not necessarily the case. Telecommunications, like health and education, can increase people's ability to participate in economic activity, and therefore also raise their incomes. A different, equally valid proposition would be: How much more income could people earn if they and the community had access to telecommunications? This question reveals the real importance of better access to telecommunications for rural communities. The real problem with the digital divide is that it can all too easily exacerbate an economic divide.

What could policy-makers do to further the competitive process?
The frustration for policy-makers is that they do not exert direct control over the level and allocation of investment. But there are reasons to be optimistic. Most importantly, policy-makers have the power of competition on their side. Most mobile markets have at least two operators, usually three or four. Competition between operators for customers stimulates network development, lower prices, incentives for customers (such as handset subsidies) and low-cost entry offers built on prepaid services.

Policy-makers can also reduce the burden of tax, whether on network equipment, handsets or airtime. They should also liberalize those parts of the value chain still controlled by monopolies, allowing competition and self-provision to drive efficiency and cost reductions in all parts of the value chain.

Operators need more freedom to set prices and develop customized offers to attract incremental customers in rural areas. In new growth markets, networks should be given a strong incentive to grow their footprints.

How far can competition drive penetration?
A lot, if the conditions are right. In countries such as South Africa, competition, business innovation and very light-touch regulation are delivering results. We should not abandon these elements. It is easy to underestimate the potential of entrepreneurship, innovation and competition to deliver. ■

Intervention dimensions

"The difficult choice for policy-makers is whether or not to intervene to further accelerate growth [achieved through competition]," notes Neil Gough. "Intervention can take several forms: rollout obligations for operators; universal service or access schemes that subsidize deployment; network sharing obligations; or licensing of new players specifically to address underserved areas.

"The benefits are an expected acceleration in reaching connectivity targets in underserved areas, but there are risks, too. All these initiatives dull the competitive incentives and pressures on operators to invest.

"The introduction of any service stimulated by regulatory intervention will inevitably reduce the accessible market for prospective commercial providers. The intervention, once made, may become permanent. This makes the policy-makers' decisions very difficult, because decisions to intervene to deliver services cannot be reversed very easily."

Photo: Juha Salminen

Pick an alphabet: The number of languages supported in mobile phone user interfaces and SMS messages is steadily increasing.

Photo: Juha Salminen

Photo: Tuomas Harjumaaskola

Clearing the language barrier

Linguistic diversity forms fascinating challenges and new discoveries for everyone involved in extending the reach of mobile communications and other modern technology.

In Geneva in 2003, the official documents of the World Summit on the Information Society (WSIS) stated that "the Information Society should be founded on and stimulate respect for cultural identity, cultural and linguistic diversity, traditions and religions." Linguistic diversity, in particular, comes into focus every time someone clicks through a mobile phone menu or writes an SMS.

Two years later in Tunis, the WSIS reiterated a commitment "to promote the inclusion of all peoples in the Information Society through the development and use of local and/or indigenous languages in ICTs." Mobile phone language support forms an increasingly important issue for manufacturers and operators trying to win customers as mobile communications spreads to new markets.

Better access

Mobile communications companies hardly stand alone in recognizing the significance of local languages. In its Universal Declaration on Cultural Diversity, UNESCO encourages linguistic diversity – even in cyberspace. The document also lists a goal of "countering the digital divide" by, among other things, "fostering access by the developing countries to the new technologies."

Increased language support translates into better access for more people while enhancing companies' interaction with local cultures. Language and culture are inevitably closely linked, so taking into account the diversity of languages supplements understanding of different cultures. Also, as phone manufacturers create language support, they broaden their contact networks by maintaining close cooperation with local partners who develop and test language packs in their regions.

From Assamese to Yoruba

According to the prominent website Yourdictionary.com, an estimated 6,800 languages are spoken in the world today. With so many to choose from, what are the practical considerations for deciding which languages mobile phones need to support?

A phone manufacturer listens extremely closely to what local contacts, partners and experts say about the business and cultural situation in a given area. For instance, Nokia started offering Nigerian languages Hausa, Yoruba and Igbo in April 2006. Based on local demand, it offered all three in a combined pack. The regulatory Nigerian Communications Commission greeted the introduction of Nigerian language support by commenting, "In today's ICT world, it is important that products have local inputs."

All Nokia phones everywhere include default menus and user interfaces in a common global language, English. In India, a second standard, Hindi, is also included in all packs. Eight other languages are available there: Bengali, Gujarathi, Kannada, Malayalam, Marathi, Punjabi, Tamil and Telugu. More are planned for introduction soon.

Languages on the rise

The decision to include a certain language, or even a certain alphabet, can depend on politics as well as business. In one country bordering Russia, the leader has declared Latin letters the official alphabet but most citizens are still more familiar with the Cyrillic alphabet used in Russia.

Memory capacity can also form a factor – the software for some languages takes up more space than that of others. Chinese language packs currently require the most memory, with their thousands of supported characters. In most cases one phone can support up to five languages.

Nokia currently offers support for 68 languages in its entry-level phones, and the number is constantly rising. The next ones to be released include a range of African and Asian languages. ■

A word about literacy

In addition to linguistic diversity, another language-related factor can affect mobile phone usage in a number of new growth markets: illiteracy. The UN estimates that nearly 800 million people worldwide are illiterate – UNESCO defines literacy as "the ability to read and write, with understanding, a short simple sentence about one's everyday life."

By this definition, a significant number of new or potential mobile phone users are regarded as illiterate. Researchers are examining what can be done to support their desire for personal, convenient communication.

Illiteracy often stems from a lack of formal educational possibilities and the preferred solution would be to raise general levels of literacy. Field studies by Nokia have documented barriers to communication that affect illiterate mobile phone users. Challenges exist in researching illiteracy, which is often associated with social stigma. To avoid negative connotations, it is sometimes called "non-literacy."

The studies have shown that contact management and asynchronous messaging present particular barriers to convenient communication, but the issue is not straightforward. Greater support for non-literate users is starting to appear in handsets – the speaking clock and icon-based phonebook features in the Nokia 1600, for example.

One way to think about the issue is that everyone is effectively illiterate somewhere in the world – for example when traveling to foreign countries with indecipherable street signs. To get a feel for what it is like to be non-literate, try this simple test: switch the user interface language on your phone to one you do not understand.

For more information on understanding non-literacy: http://research.nokia.com/bluesky/non-literacy-001-2005/index.html

South African mobile subscribers can do their banking over the air – anytime, anywhere.

Bringing mobility **to the bank**

In August 2005, MTN South Africa started the MTN Banking service as a joint venture with Standard Bank. Its momentum is still increasing. "We have received very good feedback from clients," notes Ms. Jenny Hoffmann, CEO of MTN Mobile Money SA.

The range of possible customers is great, as is the potential for similar systems elsewhere in the world. "Anyone with an MTN SIM card can open an account," says Hoffmann. MTN Banking emphasizes convenience and security: no forms to fill in, no queues to wait in – in fact, no need to step inside a bank at all, even when opening an account. During transactions, customers supply authenticated confirmation using PIN numbers or voice verification.

Banks are increasingly showing interest in the world of mobile operators. Hoffman regards the place where operators and banks overlap as an area worth exploring: "There are huge advantages to being part of a joint venture between a substantial bank and a telecommunications company, in terms of the infrastructure and technologies one can leverage." The trick is "putting that relationship together and making it work operationally."

In brief: MTN South Africa

MTN South Africa's subscriber base surpassed ten million in December 2005. Besides South Africa, the company currently has investments in ten other countries: Botswana, Cameroon, Congo-Brazzaville, Iran, Ivory Coast, Nigeria, Rwanda, Swaziland, Uganda and Zambia.

How mobile banking works

Banking without restrictions of geography, time or infrastructure – it sounds great, but how does it function? All new SIM cards contain the registration software, which can also be downloaded over the air (OTA). The full menu is sent OTA after registration. MTN calls the core product offering a MobileMoney transactional account.

Accounts require minimal additional costs: there are no monthly service fees, no minimum balances and no charges for transaction SMSs or SMS balance notifications. Some of the useful features include person-to-person payments, bill payments and transfers to other accounts.

Hoffmann sees potential for services like MTN Banking in other new growth markets. She notes the "need to overcome lack of banking infrastructure" combined with "rapid growth of cellphone ownership."

Ensuring affordability

MobileMoney's favorable cost level avoids creating barriers for lower-income consumers, who form a significant portion of the potential subscribers in new growth markets. As mobility comes within the reach of a growing customer group at all income levels, so does mobile banking. And just as some people's first phone is a mobile instead of a fixed-line, some customers may gain their first access to banking through MTN Banking.

Ms. Irene Charnley, commercial director of the MTN Group, believes that mobile banking will change not only the way subscribers interact with banks, but also the whole industry: "Banking will never be the same following its convergence with mobile telephony." ■

Island of opportunity

We take a look at Sri Lanka, a new growth market where low mobile penetration numbers signal growth and opportunity for the telecom industry.

With mobile penetration standing at just over 15 percent, Sri Lanka lags behind some of its peers in the region. The Philippines, for example, commands a 45 percent mobile penetration rate. Sri Lanka represents a land of possibilities for the telecom industry.

The island nation of more than 20 million people forms a fast-growing market that has seen great activity in recent years. For example, in April 2006 the country's largest mobile operator, Dialog Telekom, announced it was investing a further 150 million US dollars to expand its telecom network over the next two years, bringing its total investment to 450 million US dollars. Other operators are also aggressively investing in future expansion.

Mobile operators are now looking to introduce new technology and services. In particular, there are plans to migrate from circuit switch to IP-based networks and implement 3G using the WCDMA standard.

Expanding efficiently

One way for operators to expand services while save on operating and capital expenses is managed services. By turning over certain investment and operational aspects of network management to strategic partners, operators are in turn able to invest their time and resources in innovative customer offerings.

In addition, technology such as Nokia's Flexi WCDMA base stations can achieve significant success in the Sri Lankan mobile landscape because of its convenient qualities: light and easy to carry, the stations save energy and can be easily installed anywhere – on a roof, a wall or even a pole. They also do not need air conditioning.

Managed services and cost-effective equipment help save operators money by cutting site and operating costs while operators concentrate on their core business of meeting consumer demands for better services. By connecting more people with technology, operators and service providers are maximizing their return on investment and efficiency gains. ■

Photo: David Lefranc/Jacana/SKOV

In brief: Sri Lankan operators

The Sri Lankan telecom sector was liberalized in the early 1990s and forms an example of competition in action and its benefits to consumers. It currently has four mobile operators, all run by international companies. Telekom Malaysia owns Dialog Telekom, which began as the fourth operator in the market in 1995 and has risen to first place with 2.3 million of the country's approximately 3.5 million subscribers. The others are Mobitel, a unit of Sri Lanka Telecom (partly owned by NTT of Japan); Celltel Lanka (owned by international player Millicom International Cellular) and Hutchison Telecommunications Lanka, a subsidiary of Hong Kong's Hutchison Telecommunications International. So there is a world-class aspect to the Sri Lankan market, with an assortment of highly sophisticated, competitive operators. All these operators have expressed interest in launching 3G services, In June 2006, the Sri Lanka Telecommunications Regulatory Commission invited bids for a fifth player in the mobile telecom market. More competition means more innovative services and consumer choices, strengthening a vibrant telephony scene.

Inside this issue

New Horizons examines how mobile communications is making a difference – socially and economically – in people's lives all over the world. We also see how the increasing selection of languages supported in mobile phones is helping the mobile communications industry reach more customers in new growth markets.

Travel with New Horizons to check on telecom projects and market growth in Asia, the Caribbean, Latin America, South Africa, Sri Lanka and Uganda. This issue's market profile discusses the Asian-Pacific region's future prospects and the reasons why the area holds so much promise for mobile communications.

Read all about these topics and more inside New Horizons magazine!

Photo: Tuomas Harjumaaskola