Chapter 4: Cameroon

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INTRODUCTION. As one of the first African countries to adopt the GSM system back in 1989, Cameroon's telecommunications sector had the potential to become an engine for growth in Central Africa and well beyond.

Sadly, years of ill-fated policies and a lack of investment have undermined the sector to the point where, despite partial liberalisation and the signing of a performance contract between the government and the incumbent operator, Camtel, in 1998, the sector continues to be characterised by low penetration, a growing demand for fixed line services and a stalled Internet sector. The only bright spot has been the phenomenal growth of the mobile sector, which has attracted more than two million customers in less than five years.

The lacklustre development of the fixed line market and resulting low Internet penetration has left the government unsure as to its future direction. Three failed attempts at privatising the incumbent have left most observers sceptical about government's commitment to change, and in the absence of the long-awaited ICT National Agency, there is no coordinating body to promote the sector's growth.

This research aims to go beyond the rough data to track and understand the patterns of e-usage and e-access to telecommunication services in Cameroon. Carried out over 18 months during 2004 and 2005, the first phase consisted of a qualitative survey of urban and rural households to track usage and demand of communication services. The survey adopted the World Health Organization's Expanded Programme in Immunisation (EPI) methodology, and a total of 1,160 households with 7,233 members were visited.

National Indicators	
Country	**Cameroon**
Population	15.5
Poverty (% of population below $1 a day)	No data
Adult literacy rate (% ages 15 and over)	68
Urban population (% of total population)	51
GDP per capita (US$)	670
Surface area (000 km²)	469

Data was collected on the various communication services – including phones, public access, emails and the Internet – using cluster sampling techniques and a questionnaire. For a country where the last census was conducted in 1987, it became obvious that the data gathered through this methodology needed to be reinforced by more qualitative focus group studies. Eight focus groups were therefore conducted in three major cities in 2005, involving a total of 70 people (40 male, 30 female).

The findings confirmed that the Cameroonian telecommunications sector presents a conflicting picture. Despite the increase in the official telecommunications market by more than 30% per year since 2002, penetration and usage is still far from adequate, mainly due to limited availability and affordability. People acknowledge the importance of telecommunications in many of their daily activities, which is why users are prepared to travel long distances to access phone booths or telecentres. In the absence of universal access or a coherent ICT policy, usage and demand patterns are driven either by personal activities or the market strategies of the communications providers.

Important lessons can be drawn from the research. The key finding is that there is an urgent need for a

national policy, framed by universal access needs and demand-oriented strategies. Such research should be conducted on a well-defined and regular basis to enable policy and decision-makers to stay in line with the shifts in usage and demand patterns.

ICT Sector Performance in Cameroon. For the past six years, Cameroon's telecommunications sector has been partially opened to competition. Although the fixed line market remains a state monopoly, the presence of two mobile operators has dramatically changed the telecommunications landscape.

There is still a long way to go as far as access to the Internet and associated ICTs goes, with cyber cafés and call boxes (public telephones) doing their best to fill the void. In all, there are close to 600 cyber cafés and 12,000 call boxes.

Contradictory messages from government about the destiny of the incumbent operator are undermining the whole sector as an economic driver.

The Telecommunication Regulatory Board is proving of little use to the sector, despite full coffers financed by operators to pay for universal access. In the absence of clear policy, the Ministry of Posts and Telecommunications has been engaged in an ongoing battle to take control of this money. Until the landscape is made clearer by a coherent policy, the sector is bound to develop in an uncoordinated manner, and then only thanks to civil society and the private sector.

Camtel has a monopoly over local, long distance and international telephony services. It is the provider of major international bandwidth for the Internet supplier and also competes with the private sector for Internet service provision. It now competes with private VSAT owners who offer wireless local loop access to the Internet backbone directly. The fixed line network has only grown at 2.3% per annum over the past five years and is hopelessly inadequate for the country's needs.

In 2000, the waiting list for fixed lines was more than two million people. It has since been reduced to some 50,000 people, but at the same time, the incumbent's customer numbers have fallen from 115,000 subscribers to 95,000. Many of those have simply moved to mobile services, which accounts for two million subscribers between the two operators. The contract of performance signed between the government and the incumbent in 1999 to increase the number of fixed lines to 850,000 is long forgotten.

The performance of the telecommunications sector in Cameroon will be discussed in the next section. This supply side analysis will be followed by the demand side study based on the national household and individual survey conducted in Cameroon.

Telecommunications sector growth and value. Officially, the government is still seeking to privatise the incumbent, but its actions suggest that it is uncertain. Since the privatisation saga started six years ago, investment in the fixed line market has been close to zero, other than a special equipment renewal ordered by the Presidency.

This explains why the telecommunications infrastructure is significantly underdeveloped, with a fixed teledensity of only 0.67 per 100 (eighth on the continent) and a waiting list of several years based on the current rate of expansion. However, mobile subscriptions have been growing at over 270% per annum for the last five years and now represent well over 80% of all phones in the country.

The mobile operators are now the leaders in infrastructure investment. While the incumbent's revenues have fallen steadily since 2000, the overall revenue of the sector has increased from US$223,599,592 in 2000 to US$384,900,000 in 2002.

CAMEROON

Source : Sectoral strategy of P&T Draft document (2003)

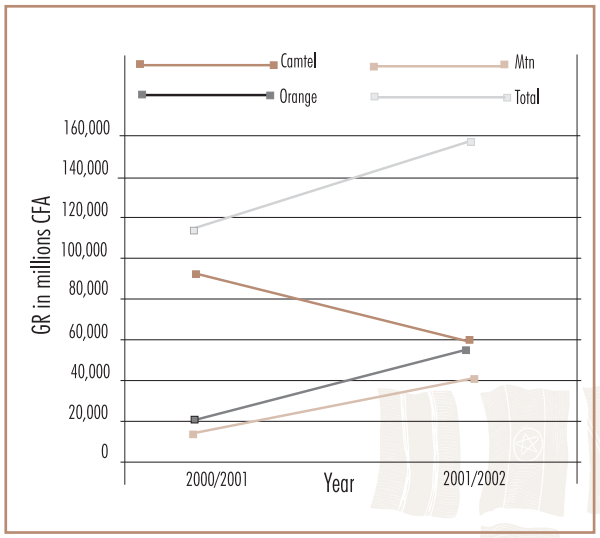


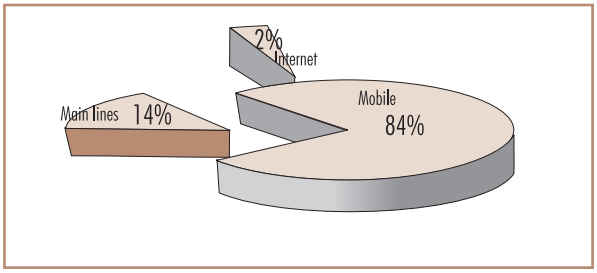
Figure 4.1: Gross revenue curve

Although the figures for 2003 and 2004 were not available at the time of going to print, the increase in the number of new subscribers and the constantly upgrading GSM technology makes it likely that this trend is continuing. From one million subscribers in 2002, the two combined mobile operators are claiming one million each today. The number of fixed line subscribers stays steady at 95,000.

THE MARKET STRUCTURE. The incumbent, Camtel, no longer dominates the local market. Two mobile players are now working to fulfil the considerable demand for telecommunications services: MTN and Orange. One international operator, Saconet, is offering services through Thuraya.

In June 2004, a second fixed line operator was authorised, but most of its energy is wasted in court battles fighting to get the incumbent to put at its disposal the required infrastructure to provide its services. This explains why the second national operator is still not operational.

To regain lost ground, the incumbent is considering setting up a mobile arm, and talks seem well advanced



Source : Sectoral strategy of P&T Draft document (2003)

Figure 4.2: Contribution of mobile, Internet and fixed lines to total revenue

with a strategic partner from China. The impact of this move on the market is yet to be seen.

Telecommunications services are still expensive: where a minute-long call on a mobile phone costs around 250 CFA1 for national calls and 500 CFA for international calls, VoIP service providers are proposing a rate of 100 CFA for international calls. Unlike many other African countries, the government has not banned VoIP services, which are booming thanks to prolific VSAT access providers.

Instead of improving, however, Internet access is worsening. The performance of the incumbent recently led to a complete change of the management team, but the first moves by the new management have not been favourable to Internet growth. The 40% reduction for fixed line access was first scrapped and then reinstated, creating uncertainty.

Figure 4.2 derives from last year's data. Things have not improved substantially since then as far as Internet usage and access are concerned. The failure of the incumbent to provide quality accessible services has laid the ground for a booming underground market in which VSAT providers, through wireless connections, are filling the gap. The cost is still relatively high and the quality of services poor. Consequently, the Internet is unable to attract many subscribers. The last data from the P&T Ministry indicates 8,000 users per day in Yaoundé, the capital city, which has two universities accounting for

around 120,000 students and a population close to two million.

ACCESS. Access to fixed lines has decreased from 115,000 in 2001 to 95,000 in 2003. They barely account for 0.7% of the country's teledensity. Five years ago, the waiting list reached two million, with a waiting time of more than two years. Since 2003, the list has reduced to 45,000, but the waiting time remains long. In the last two years, the government has ordered two special investments to revamp an infrastructure which was in a state of disrepair. The first phase enabled the incumbent to install a digital node in Limbe with a capacity of 50,000 lines. The second phase will enable the state-owned operator to draw a domestic line from the fibre optic access node in Douala. Around 30% of the country is connected, reaching about 40% of the population. Rural areas remain largely unconnected. The two main cities, Douala and Yaoundé, alone account for more than 50% of total subscriptions.

The process of privatising Camtel began in 2000 but has been stalled several times, starting when the highest bidder (Telecel, now owned by Orascom of Egypt) walked away from the deal. The second-highest bidder, Mont Cameroon Communications (MCC, formed by Econet, Tunisie Telecom and British Telecom) was until recently engaged in long-running unresolved negotiations with the government. A major obstacle is the Cameroon government's failure to pay 10 billion CFA (US$12 million) of debts. However, the government said MCC's technical capacity is weak. A report in May 2002 suggested that government considers MCC's and other bids to be "not satisfactory".

The failure of the process, as well as that of the privatisation of other state-owned industries, will hold back the involvement of major investors. The government is now looking for other bidders and is reported to have offered a mobile license as part of the deal.

MOBILE. Camtel's poor performance has wasted enormous opportunities for the development of the fixed line sector. The two mobile operators, Orange and MTN, overwhelmingly exceed the incumbent in terms of performance and revenues. Since July 2005, the two combined claim more than two million subscribers, almost 21 times the number of fixed line subscribers. The phenomenal growth in mobile has helped the country's teledensity reach the 12% level. Innovative pricing strategies are helping even lower income

Cameroon's ICT Profile

Telecoms revenue 2003 (M US$)	275.1
Revenue CAGR (1998-2003)	6%
Rural telecoms revenue potential 2003 (M US$)	26
Fixed CAGR (1999-2003)	2.34%
Main lines 2003	95,155
% residential lines 2003	87
Main lines per 100 people	0.67
Residential main lines per 100 households	3.1
% Digital 2003	68
Public phones 2003	6,550
Estimated rural fixed lines 2003	9,880
Urban-Rural telecom disparity 2003	9.3
Waiting list as % of fixed lines 2003	49.3
Telecom revenue as % of GDP 2003	0.7
Connection charge (US$ residential 2003)	63.00
Residential line rental (US$) 2003	4.50
Basket of fixed line costs	76.50
Basket of cost as % of per capita income	11.5
Mobile subscribers (2005)	2,000,000
Mobile subscribers per 100 people (2003)	6.73
Mobile as % of total subscribers 2003	80.3
Mobile CAGR (1999-2003)	272.5%
Number of ISPs 2002	40+
ISP charge (US$) 2003 30hrs/month	77.20
Monthly cost of 64 kbs data channel	588.00
Internet users 2003	45,000
Cities with local dial-up IP POPs 2001	2
International Internet bandwidth	9,000kbps
PCs 2003	100,000
TVs 2003	650,000
Cyber cafés / telecentres	400

Figure 4.3: Breakdown in fixed lines subscriptions

Category	Number of subscribers
Residential	57 797
Companies	13 551
Public services	15 052
Tele-booths	7 360
Call booths	40
Diplomatic Missions	1 347
TOTAL	**95 155**

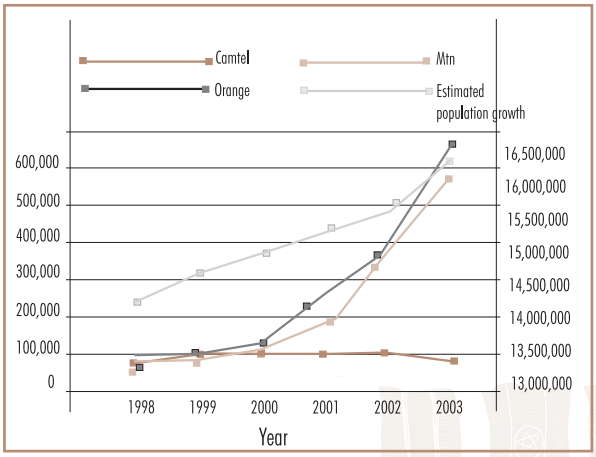


Figure 4.4: Subscription trend vs population growth

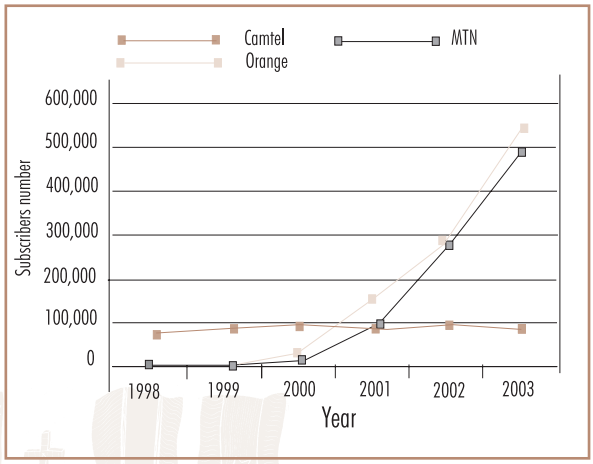


Figure 4.6: Subscribers' evolution curve

Source : Sectoral strategy of P&T Draft document (2003)

people join the mobile market. A grey market for handsets is booming and the number of call boxes is reaching the 20 000 mark.

Despite the toothless regulatory agency, the dynamism of the mobile operators has made telecommunications more affordable than two years ago. But prices are still high for the average Cameroonian and it is hoped that costs will continue to drop. This will undoubtedly change the structure of the national market, opening up unprecedented opportunities. ICTs are "neutral tools" that can be adapted to any circumstance, and the task of the state is to ensure an enabling policy environment for ICTs. Only then will the necessary investments follow.

Figure 4.5: Capacity for growth

Operator	Total capacity/ offered access	Number of lines/ service access	Number of lines available/access available	Observations
CAMTEL	140 000	96 000	44 000	Many lines are available out of asked zones Long extension delay Costly extension
ORANGE	600 000	525 000	75 000	Short delay in setting up
MTN	1 000 000	475 000	525 000	Short delay in setting up

In the meantime, the Telecommunications Regulatory Board (TBR), which was created in 1998, has faced serious issues in its struggle with Camtel, which is reluctant to give up its power. The TBR lacks staff with the appropriate technical skills or regulatory experience. Another issue for Regulatory Board has been a "lack of teeth" to enforce its decisions around the telecoms law of 1998. Consequently, there have been an enormous number of violations. The Board is developing strategies for overcoming this.

INTERNET. The paradox of Internet development in Cameroon is that, according to the law, the incumbent is the sole Internet provider in the country. In reality, more than 20 ISPs are competing for a market that is still undeveloped compared to countries of the same size, such as Senegal. A very rough approximation suggests around 10 000 subscribers, mainly businesses and international organisations. Only about 8 000 people use the Internet in Yaoundé every day.

The quality of the services is erratic, and in the absence of technologies like ADSL, access is very low. This explains the indirect presence of foreign ISPs in Cameroon and the serious fragmentation of the total connected base in Cameroon. More than 20 Internet

access providers, or cyber cafés, in Yaoundé are connected to the Internet by VSAT to a flow of less than 512 Kbps. In 2003, Cameroon had dial-up POPs in only the two main cities, Yaoundé and Douala. Because of the poor microwave links to the telecoms hub in Yaoundé, Camnet (the Internet division of Camtel) is planning a large VSAT-based network of over 100 ground stations to create a nationally available network. There is a project to increase the bandwidth and speed through the deployment of optic fibre throughout the country.

To help increase the Internet access, the TBR has defined a single ISP licence across the entire country, contrary to the former practice where separate licenses were issued for each city. There is no ISP association at this stage, so Internet data is still quite sketchy.

List of key or major players (not exhaustive)	
Fixed telecom operator(s)	Societe des Telecommunications du Cameroun (CAMTEL)
Mobile operator(s)	MTN (475 000 subs as of Dec 2003)
-	Orange (525 000 subs as of Dec 2003)
ISPs	Camtel provides both the international Internet link as well as selling dial-up and leased line Internet access, Web hosting and domain name registration under the name CamNet
-	ICCNET is a private ISP and is focusing on drop-in access
-	CENADI is a government ISP which copetes with the private sector
-	SUP Telecom interactive Africances, New Technology corporation, Africom, Cercom, CKT Distribution, Informatique, Virtual Cameroon, Creolink, Globalnet AdsNet, ICCNET, OSL
VSAT/Satellite	Creolink, Globalnet AdsNet, ICCNET, OSL, Douala1.com (data only)
Wireless local loop	Creolink, Globalnet AdsNet, ICCNET, OSL, Douala1.com (data only)
Data/leased line	Camtel provides both the international Internet link as well as selling dial-up and leased line Internet access, Web hosting and domain name registration under the name CamNet
Other	N/A

UNIVERSAL/RURAL ACCESS. The implementation of the universal access policy is facing various hindrances, not least of which is who is going to manage the money. A special fund exists within the TRB, which is financed by the two mobile operators, the incumbent and some major ISPs. Since the TRB is not an operator and cannot itself provide universal access services, the Ministry of P&T, which has a project to set up community telecentres, is fighting to gain control of the money, and indications are that the Ministry may prevail.

At the moment, rural access is a serious issue, especially in the north of Cameroon, where voice services are extremely sparse, and there is effectively no Internet access. The government has begun to encourage operators to deploy services in rural areas, and promises to support any efforts, and to speedily resolve any regulatory issues that develop. However, with Camtel enjoying a monopoly, the status of potential competitors is unclear.

Generally, private operators target the most densely populated economic zones; to date, close to 55% of the total population of the country is covered by the mobile telephony network, but more than 90% of this population covered is urban. Consequently the prices of fixed and mobile telephone services remain high compared to similar African countries.

Another notable characteristic of rural Cameroon is the prevalence of the informal sector. It is estimated that 90% of the rural economy is in the informal sector, compared with only 60% in urban areas. This rural-urban disparity can be largely attributed to the focus on agriculture in rural areas.

The prevalence of the informal sector in rural areas has, in turn, necessitated the development of informal rural financial institutions. These rotating savings and credit associations, known as “njangis” or tontines, are the only potential source of micro-finance assistance available to many rural dwellers, particularly women. There is confidence among some observers that with government support, a great deal of progress can be made in resolving rural issues. However, there is a long way to go even in the better

Policy Framework	
Independent regulator	Agence de Regulation des telecommunication (ART)
Liberalisation schedule	Local: 2006 National long distance: 2006 International long distance: 2006 Mobile: 1999
Local services	Monopoly
Domestic long distance	Monopoly
International long distance	Monopoly
Mobile	Full competition
Private VSAT licenses	Full competition
Terminal equipment trade	Full competition
Public VOIP allowed	Yes
Cybercafés, telecentres	Full competition
Wireless local loop	Full competition
Leased lines	Monopoly
Data	Full competition
ISP	Full competition
National ICT policy	None

served areas, as the weak dial-up infrastructure has short-circuited the development of the Internet in Cameroon as a whole.

SATELLITE REGULATION. The TRB has opened the door for the liberalisation of access to VSAT at least for the delivery of public Internet services. Some of the VSAT operators offer international VoIP services without TRB's authorisation.

NATIONAL CYBER CAFÉ NETWORK. Cyber cafés are the chief mode of access for the vast majority of Cameroonian Internet users. Local company Doula1.com believes that a nationwide network of cyber-centres linked to ISPs by VSAT, or terrestrial optical fibre where available, would have enormous potential. The company is currently working on this concept.

One of the main requirements would be to demonstrate that a national cyber café network would both contribute to the viability of the national VSAT network and also become viable in its own right. One way to achieve the latter is to have a mandate to support development activities, and to derive revenues from those activities as well as from purely commercial activities. The development activities could include the provision of training and access time to SchoolNet clients.

SMS AND VOICE MESSAGING-BASED INFORMATION SERVICES. Cameroon is a country where the experience of projects such as SDNP and of educational networking resources could be leveraged into the rollout of a more direct messaging and information content service over the GSM/SMS and voice messaging platform. A potential pilot project has been presented in a Kenyan report. Such a pilot could be attempted in any country where:

- the experience, interest and capacity exists amongst both NGOs and at least one capable entrepreneur who would offer the value-added service;
- one or both of the existing GSM operators has already rolled out an SMS and/or voice messaging platform that is successfully being used already in urban areas; and

Figure 4.7: Service costs in 2003

Cost of fixed line telecommunications (1 US$= 550 CFA)

Connection fee:

Residential	30,000	(US$55)
Business	90,000	(US$164)

Monthly rental:
3,000 CFA (US$ 6)

Local calls 40 CFA for 3 mn	(US$0.07)
Long distance 160 CFA/mn	(US$0.29)
Calls to mobile 180 CFA/mn	(US$0.32)

Off peak calls (8 PM-7 AM):
50% reduction except for mobile calls

International calls

To France 600/mn	(US$1.02)
To USA 1200/mn	(US$2.18)

Cost of Internet bandwidth

Connection fee:	20,000 CFA (US$36.00)
Warranty fee:	50,000 CFA (US$90.00)
Monthly rental fee:	3,740 CFA (US$6.80)
Flat hour:	1,000 CFA (US$1.80)

Access by specialised line (in CFA)

	Connecting fees	Monthly fees	Warranty fees
64 KBS	420,000	900,000	900,000
128 KBS	420,000	1,315,000	1,315,000
256 KBS	420,000	2,460,000	2,460,000
512 KBS	420,000	4,000,000	4,000,000
1024 KBS	420,000	6,000,000	6,000,000

Comparative table of lines and wireless (CFA)

	Fixed Lines	Wireless
64 KBS	900,000	470,658
128 KBS	1,315,000	847,184
256 KBS	2,460,000	1,600,236
512 KBS	4,000,000	3,049,861
1024 KBS	6,000,000	873,806

- GSM coverage into rural areas is sufficient to enable targeting of a sufficiently widespread rural clientele, community organisations and NGOs.

This Kenyan report has highlighted the fact that the experience and capacity appears to exist in Cameroon, as the GSM infrastructure already covers most of the country and significant rural areas. Furthermore, rural coverage can also be enhanced and extended to more communities through the use of simple antennas and higher performance terminals to enhance rural signal reception.

PRICING AND AFFORDABILITY. The uncertainty around Camtel is keeping telecommunications prices artificially high. Price increases in 2002 and early 2003 have made local calls expensive. International long distance prices have been slashed, but remain high in comparison to mobile prices, and out of reach with regard to VoIP prices. Calling America is 12 times more expensive with the incumbent than through VoIP providers. Mobile operators have tried to slash their prices, but this created such an outcry from Camtel that the Minister of P&T stepped in to stop the move. The mobile operators are now offering between 10% to 15% bonuses on pre-paid charging cards.

EMPLOYMENT AND REMUNERATION. The telecommunications sector is still considered as one of the best-paid sectors. This has seen the most skilled engineers leaving the state-owned corporation for the private mobile operators. The impact of this bleeding can be seen in the productivity ratio. Camtel employs 2,167 employees at a ratio of 1 per 44 lines. Orange has 365 employees at a ratio of 1 per 1,438 lines, and MTN has 317 employees at a 1 to 1,498 ratio.

ICT POLICY AND DEVELOPMENT. The country's status on achieving DSPR (Document on the Strategy for Poverty Reduction) targets shows that it is unlikely to reach its ICT and universal access targets. The potential and limitations of ICTs in the development process and poverty reduction are basically determined by three elements:

- Physical infrastructure: conducive telecoms policies, e.g. special provisions and incentives for rural and remote areas, or low cost hard- and software that would be simple for users with low educational background;
- Human resources: e.g. training of poor people, especially women and youth, in ICT skills and supporting development of local language content; and
- Policy environment: e.g. community universal access.

One of the biggest concerns about ICT policies, e-strategies and related implementation plans and initiatives in Cameroon is the lack of a clear direction and a conducive policy framework. These concerns are linked to the absence of a vision and a national policy as well as the difficulties experienced in coordinating the different organisations in charge of designing and implementing Cameroon's ICT policies and strategies. To end this confusion, the President established the National Agency for Information and Communication Technologies (ANTIC), and its organisational and operational framework, in 2002. It was given a large range of functions relating to infrastructure, regulation and security as well as building human capacity in the deployment and use of ICT. Its materialisation is still expected.

This growing interest in using ICTs to support poverty reduction efforts to achieve the Millennium Development Goals (MDGs) highlights the pitfalls and missing elements in the PRSP (Poverty Reduction Strategy Programme) paper adopted in 2002 by the government. The fact that so little was said on how to use ICTs for poverty alleviation and creation of employment sheds some light on the uncertainty in

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which decision-makers are mired. At the country level, ICTs are still yet to be effectively integrated into national poverty alleviation and development strategies. This vacuum is exacerbated by the lack of national ICT strategies.

CHALLENGES FACED BY THE ICT SECTOR. The challenges to be overcome include:

- Regulatory uncertainty: Camtel's slowly dying hegemony and the weak regulatory environment leave much uncertainty around investment conditions. Authority has not been clearly defined, and the regulator is wary of creating too much competition, which could make investment in the incumbent unattractive. Many of the upstarts and smaller competitive players are operating clandestinely while waiting for the regulator to fully establish itself. It is currently streamlining the process for telecom licensing.
- Lack of a universal access or rural telecoms policy: Rural telecoms investment needs to be encouraged through a definite universal access policy and universal access fund, which has not been activated yet. The companies currently active in VSAT service provision could potentially also be players in rural telephony for the most remote areas not covered by the mobile operators, as well as for Internet.

The hurdle of import duties and tariffs has been mitigated recently. The elimination of taxes and customs duties on computer and computer network equipment was legalised in the state budget for 2001/2002. The regulator has also helped reduce tariffs for access to spectrum for satellite and wireless communications.

As in other countries, the general impediments outside the telecommunications sector include poor physical infrastructure, lack of commercial power and lack of rural investment incentives. On the negative side, the country has been described as having a difficult and sometimes opaque business environment. It is often difficult to navigate through the government bureaucracy.

The major incentives to invest in this sector in Cameroon are related to tax and duty exemptions on computers and computer networks. There is constant improvement in the regulator's efforts to take control of the sector and to shorten the time required to process license requests for satellite and VSAT installations.

Furthermore, the government has put in place an investment code that is very favourable towards foreign investors in an attempt to attract private foreign investment into all sectors of the economy. The government has embarked on a serious anti-corruption campaign, which seems to be bearing fruit. The most recent Transparency International report saw Cameroon climb six places in the right direction. Finally, the peace and political stability in the country also make the country very attractive for foreign investment and the development of international economic and technical co-operation.

E-ACCESS AND E-USAGE RESEARCH. Cameroon's ICT sector performance shows that the incumbent has negatively affected a sector that could have been an engine for growth. Despite the efforts of the mobile operators, the overall sector performance is low in comparison with countries like Senegal or Kenya. The impact of this on users has yet to be fully measured. A study of user demands for services and access could enlighten the decision-making process, whether for infrastructure rollout or universal access policies.

The e-usage and e-access survey and focus group study could help define more clearly the usage and access patterns in the country. The aim of the combined research methods was to analyse access

and ICT demand and usage patterns in Cameroon in response to services provided by the country's telecommunications operators.

The focus group added a gender perspective in analysing access and usage of fixed lines, public telephones, mobile phones and the Internet in metropolitan and rural areas. The reliable methodology, sampling techniques and comprehensive questionnaires have done a great deal to gauge the success of this liberalising sector and various ICT initiatives in the country. The survey was the first of its kind to collect data on usage patterns of telecommunications services in Cameroon. The focus group study helped to gather further information to enrich and address gaps in the previous survey and gain more insight into users' strategies in coping with scarcity of access and cost of services, and the imbalance between women and men in e-access and usage patterns.

Methodology and Sampling. The quantitative survey used a methodology based on cluster surveying as indicated in the Methodology in Appendix 1.

Three different geographic areas (capital city, urban and rural areas) formed the primary sampling units. This was then broken down into 45 enumeration areas that served as secondary sampling unit from which 30 households were selected randomly. The sample was distributed between these different geographic areas – major town, other urban and rural areas. This falls in line with the approximate distribution of communications services in Cameroon. Four provinces out of ten were surveyed. A sampling of 1,475 households was selected, and 1,286 households and 7,373 individuals were effectively visited. After clearing the findings, 1,136 households and 6,119 individuals were kept in the survey.

The sample distribution was as follows: major towns, including the two main cities of Douala and Yaoundé, 49.6%; other urban areas, 15.1%; and rural areas, 35.1%. The major towns are limited to the two main cities: Douala, the economic hub with a population of about 2.5 million, and Yaoundé, the political capital, with a population of 1.5 million. Other urban areas include Garoua in the North province, with a population of 200,000; Ebolowa, in the South, with close to 50,000 inhabitants; and Bamenda, in the North West, with around 100,000 inhabitants. The rural areas include villages such as Minkoameyos, Bonadale, Arrdo Goni, Koussomo, Emanemvem, Chomba and Santa.

The demographic structure of the survey is inversely proportional to the real composition of the country's population: 51.8% of the respondents being male. This can be explained by the fact the questions were generally directed to the household head. By tradition, males play this role. The composition of the household offers another characteristic of developing countries.

Although 77.2% of house members are composed of nuclear family (husband, wife, son daughter), 22.8% of members are related and 1.4% non-related. 49.7% of respondents are married, 41.2% single, 4.8% widowed, 1.3% divorced and 2% separated. This has an impact on income generation and the use of telecommunication services demonstrated later in the report.

The household survey took place between July and September 2004 and involved 12 enumerators to gather the data at the household levels. The last population census in Cameroon was in 1987. The lack of accurate census data affected the research in two ways: the data gathered in the field couldn't be weighted, and the inaccuracy of national statistics created logistical challenges. In some case, the names of the locations recorded on the census document have been changed or proved to be non-existent. In addition, public authorities and people not accustomed with such in-depth research were

reluctant to cooperate. A substantial amount of time was lost in negotiating permission with public officials to conduct the study.

This quantitative national survey, because of its limitations in giving insights as to how communication users adopt different technologies and cope with cost and access on day-to-day basis, needed to be completed using a qualitative analysis of usage. This explains the recourse to the focus group approach.

From July 11 to July 23, eight focus groups were conducted in three areas (Yaoundé, Douala and Nkoayos). Four focus groups were held in Yaoundé: two mixed groups, one women's group and one professional and workers group. Three were conducted in Douala: two mixed and one youth group. One mixed group was done in a rural area, Nkoayos. In total, 62 people were interviewed; 50% women, 50% men, apart from women group as presented in the matrix below.

Each focus group brought together about eight members. Groups were tape-recorded. For professionals and workers, two separate focus groups were conducted. The combination of focus groups, semi focus groups and analysis of secondary data provides at least a limited form of the triangulation of methods essential in any social research project. It was, moreover, much more rapid and cost-effective than other "rapid appraisal" studies which have been carried out in this field.

The focus group discussions covered similar issues that were raised in the quantitative survey – use of private and fixed phones at home and office, usage of public phones, mobile phones and the Internet and the pattern of communication expenditure. As a method of inquiry, it meant to:

- Fill the gaps from the 2004 quantitative survey;
- Probe deeper into issues raised by the 2004 survey;
- Be cost-effective, relatively cheap and quick to conduct;
- Create interaction between participants that leads to relatively spontaneous responses and creates a high level of involvement;
- Share together a pool of experiences, with discussion providing a consensus on the most typical experiences and shared opinions, but also less typical experiences and differences of opinion, as well as particular examples;
- Enable open-ended questions and discussion, thus preventing interviewers' preconceived ideas from biasing results and placing more emphasis on participants' points of view;
- Render it possible to select theoretically chosen subgroups of the population, i.e. those that are going to provide the most meaningful information, often using selected comparisons (e.g. men/women, low/middle income, centrally/peripherally located); and
- Limit the "bias" when the results are interpreted as not representing the full spectrum of experiences and opinions.

In the case of Cameroon, the gender perspective was embedded in group selection and results interpretation. This gender-sensitive approach affects the research and results interpretation in a way not seen before in RIA research.

LIMITATIONS. There are, however, a number of widely-recognised weaknesses with this methodology, including:

- The researcher has less control over data generated than in individual interviews;
- There is no certainty that individual behavior mirrors group self-reported behaviour; and

Focus Groups

Location	EA Type	Adult	Women	Youth
Yaoundé	Capital city	30	21	
Douala	metropolitan	23	11	8
Nkoayos	rural	9	3	

Research conditions

Some limits and difficulties were encountered in the field during the qualitative data collection.

- In Yaoundé and Douala, it was the rainy season. That meant some focus groups were cancelled because people could not reach the meeting place;
- Some people had difficulty getting to the meetings;
- Some women were not able to attend the meetings without asking their husbands;
- Conducting the focus groups in one hour was not possible if we wanted to cover all the questionnaires and let people talk freely; and
- The time frame for the research was quite short.

- The data generated cannot be regarded as representative in any statistical sense.

MAJOR FINDINGS. Age affects access and usage in variable ways. Cameroon's decision-makers are generally older than 50, and are not frequent or common users of ICTs. Even if mobile usage seems to cut cross all age groups, the usage of the Internet and computers is more common amongst younger people. This creates a gap between the required policies and the ability of the decision-makers to lead the change.

The percentage of economically active people in the survey (between 25 to 60 years old) was 27%. This creates a huge burden on working people, since they have to support the great majority of those not earning a leaving. This earning gap has an effect on spending on electronic commodities, as we'll discuss later in the report.

The age profile explains to some extent the dynamics of the mobile market. Although the household heads in the survey are predominantly the owners of mobile phones, usage and spending patterns indicate that younger people spend close to 30% of their earnings on calls, whereas the household heads spend less than 10%.

The family structure varies from major towns to rural areas. More than 60% of families in metropolitan areas are monogamist. The proportion is the reverse in rural areas, especially in the North region. This also has an effect on the income generation and on the number of people leaving under the same roof. Most of women in polygamist families contribute to the earnings, mainly (80%) through informal activities.

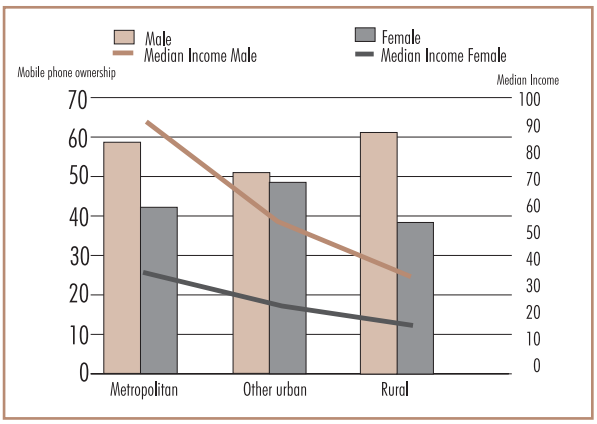
EMPLOYMENT AND EDUCATION. At the time of the survey, 43.1% of children and youth were attending school. This is a blow to a country which sees 100% school attendance by 2015 as a reachable MDG objective. The figure varies from 70% in metropolitan areas to as low as 5% in some rural areas. However, in the rural areas, 28% of children contribute to income generation through informal activities. Most of the

Figure 4.7: Demographics

Age	%	Income	%
0-10	22.2	1-50	39.4
11-14	8.6	51-100	22.8
15-19	12.3	101-150	11.3
20-24	12.9	151-200	8.6
25-29	11.1	201-300	8.2
30-34	7.4	301-400	5.7
35-39	6.4	401-500	1.7
40-44	5.4	501-750	1.4
45-49	3.8	751-1,000	0.4
50-54	3.2	1,000->	0.5
55-59	1.4		
60-64	1.8		
65->	3.3		
Total	**100.0**		

Location	%	Gender	%
Metropolitan	61.6	Male	51.9
Other Urban	21.9	Female	48.1
Rural	16.4		

Figure 4.8: Gender split based on those that own a mobile phone



households surveyed indicated that 82.9% of youth have completed secondary school, while 12.2% have gone through higher training.

As for literacy, 77.4% of the household members say they can read newspapers easily, 10.9% say "with difficulty" and 10.9% say "not at all".

These findings are in sharp contrast with the claim of the Ministry of National Education that 90% of the young are enrolled in school in the metropolitan areas and 70% in rural areas.

The cost of attending school could explain this disappointing figure. The household earning patterns demonstrate that 52% of all the respondents earn less than $50 per month; 70% less than $100 and 3% earn between $391 to $800 per month.

The unemployment rate in Cameroon is among the highest in Africa – 53%, according to the survey. This figure is in line with various estimates made by international institutions, even if the government disputes this from time to time. Amongst employed people, the public sector accounts for 17.5%, parastatals for less than 2% (1.9%), the agricultural sector 18.2% and the informal sector 36.5%. The public service has stopped recruiting since 1986 and most of the private sector either closed down between 1990 and 2000 or downsized. The consequence is that the informal sector has become the main creator of employment. This has an effect on the accurate evaluation of real earnings and certainly has a great impact on spending patterns. This is why 50% of people interviewed say they can't access the Internet because of affordability.

PENETRATION AND USAGE. The amount spent on telecommunications services by households in Cameroon is around $20, which is close to 21% of GDP per capita. People tend to spend more when they earn more, and the households that earn the big income are located mostly in metropolitan areas. Wide recourse to mobile telephony means the cost of telecommunications is similar in rural areas as in urban areas, since mobile communications do not distinguish between local and long-distance calls. Even people with fixed lines use their mobile phones to make long-distance calls.

When asked what prevents them from using more telecommunications services, people rank in order affordability (25%), time (22%), quality of service (9%) and access (less than 2%). It seems quality of the service is not a criteria. One explanation for this can be that quality of service becomes a factor only when there is accessibility.

USE OF OFFICE PHONES. Private fixed lines are considered a luxury because of their scarcity. The unavailability of fixed line phones and the boom of mobile explain the declining use of fixed line phones. Sometimes, people use relatives' or neighbours' fixed phones. In the case of neighbours, it's mostly for received calls, to avoid costs to the phone's owner. Even though office phones are "free", people use them only when it is really necessary; for an important and urgent message to family, friends and for business.

Some youth admit that they use government phones excessively because it is free and paid for by their taxes. The use of state phones by neighbours or relatives of those who have access to them is widespread, but has been declining due to increased accessibility to mobile phones and reduced accessibility to public buildings.

Two years ago, government reduced its public expenditures due to pressure from international institutions to reach the "completion point". This means some professionals and workers no longer have unlimited access to telephones.

FIXED PHONES AT HOME. Ownership of household fixed phones is a privilege of a tiny minority of the population – in the sample, mainly civil servants and

professionals. At home, all family members, without distinction of sex or age, use fixed phones. To monitor usage and avoid misuse, some parents have a pin code which prevents children from making unsupervised calls. Using a pin code is not only to keep an eye on children. Some respondents prefer to use their mobile phones because with pre-paid cards, they have more control of their communications.

Generally, youth between 15 and 20 of both sexes are the main home telephone users. Adult men seem to use it more than women.

When combining fixed line and mobile phone possession, close to 45% of respondents in metropolitan areas indicated they have one of the two or both in the house. The percentage goes down to 23% in other urban areas, while rural areas account for less than 8%. Less than 1% of households have an Internet connection at home, and only 3% of respondents have an email address.

PHONE BOOTHS. One market sector that has suffered severely with the event of mobile is private fixed line phone booths. Close to 80% of people used to rely on these for telecommunications, but they are being replaced by mobile call boxes, which offer more flexibility and competitive prices. The call boxes are a source of self-managed informal economic activity, which has generated more than 10,000 jobs between 2002 and 2004. They are equally distributed between metropolitan urban areas as well as in rural areas. They absorb 80% of the average $10 spent per month by each household on telecommunication.

PUBLIC PHONES. In Cameroon, public telephones mean private phones open to the public. Telephony providers, either fixed or mobile (MTN, Orange and Camtel), don't have their own public phones. In the past, Camtel had telephone booths where users, with a pre-paid card, could phone. This system doesn't exist any more because of act of vandalism and poor management. Thus, public telephony in Cameroon refers to:

- Telephone booths, which offer mostly fixed line telephony;
- Call boxes: These are places on the roadside equipped with a table, umbrella and mobile phone where people can make mobile calls;
- Taxi phones: These are like call boxes, with the difference that they are a little more comfortable than call boxes and they use fixed phones for mobile calls. This type of public phone is mostly found in Douala; and
- Cyber cafés: Mostly for international net phones; some cyber cafés offer fixed and mobile telephony.

Due to the fact that fixed phones at home and office are rare and public phones are cheaper for mobile and international calls, all respondents say they use public phones. Professionals and workers use them less because they have access to phones at home and the office, and adult women use them more than men to save their credit and manage their personal mobile phones. In rural areas, people mainly use mobile-based call boxes.

The choice of one or the other public telephones is motivated by:

- its proximity (especially call boxes);
- the unavailability of fixed phone at home (which is cheaper than calls in telephone booths);
- in some remote areas, the lack of network of one to the other mobile provider; and
- its low cost compared to personal mobile phone and fixed phone at home for what is concerned with international and interurban calls.

Location is a major factor in the choice of a public phone. The nearest it is, the safer the user feels. People use different kinds of public phones depending on the type of communications:

- Telephone booths for urban calls from fixed line to fixed line, or mobile calls if mobile is provided.
- Call boxes or taxi phones for mobile to mobile calls.
- Cyber cafés for international calls via net phone.

Because of the popularity of mobile, call boxes and taxi phones are the public phones most in use. Call boxes beat taxi phones because of their proximity: they are found all over the country. Some people say they use public phones sometimes for discretion or when they want to protect their identity.

ISSUES OF PRIVACY. For most respondents, privacy, although an important aspect of communication, doesn't exist when you use public places. They perceive privacy at two levels:

- They all recognise there is no privacy with public telephones. To deal with that, they lower their voices or simply don't use public phones for private and confidential communications.
- Some people say public phones are discreet: the number of the public phone, and not your own number, appears on the caller's phone.

ISSUES OF SAFETY. Respondents link safety to privacy. Safety is linked to confidentiality in the communication first, and then physical safety, which is linked to location. Public phones in the user's neighbourhood are seen to be physically safer. Most women avoid going to a public phone at night. In rural areas, safety refers to disclosure of information. For professionals, safety refers to the curiosity of passers-by. For women, safety is all about the integrity of their communication. Youth and some adults define safety as the reliability of the network.

ISSUES OF SOCIALISATION. Cameroonians do not use public telephone areas as social gathering places. Most people go to telephone booths and call boxes to call or receive messages and to buy pre-paid cards. Some youth will meet at public phones for appointments with friends.

COMBINING PUBLIC PHONES WITH OTHER PHONES. Generally, people use all kind of phones: mobile, private fixed line and public phone, depending on the cost of communication, the confidentiality of the communication, the location and the time. In rural areas, people use mostly their mobiles and call boxes because they are accessible. To call fixed phones, they go to the nearest town. For others, fixed phones at home and at public places are kept essentially for fixed calls. Sometime, fixed office telephones are used for calls other than fixed line calls, mostly when the service is free. Women are big consumers of public phones, even for those who have credit on their mobile phones. They use fixed telephones for fixed line calls and mobile phones for mobile calls. Professionals use public phones less because they have more access to telephones than most people.

MOBILE TELEPHONY. Mobile ownership is currently 21.6%, according to the household research. Even if 51.6% of respondents have still to access this commodity, it's fair to say the country has proved to be a fertile ground for mobile operators. For a country which only opened to competition less than five years ago, the penetration rate is on a par with most African countries.

OWNERSHIP OF MOBILE PHONES. With the "collapse" of fixed line services as the main telephony commodity, mobile phones are an absolute necessity nowadays. In the focus groups, the ownership of mobile phones jumps to 80%. This disparity is due to the size of the sampling and the locations selected, but provides a better insight to interpret usage patterns. For the 20% of the sample who don't have a mobile, one mentioned the lack of financial means. This category is composed of youth in college, housewives and women doing menial activities. Others' phones have been stolen or are not working. Some women are still waiting their husband to take the initiative.

In general, all adult members of a family own a mobile phone, and in richer families, even teenagers own one. In poorer families, only adults have them, and there sometimes one fixed mobile phone at home for the rest of the family.

Theft of mobile phones is quite frequent in Cameroon, to the point where most upgrades of old phones is due to theft. Once people get used to a phone, they find they cannot live without them. Women are a particular target for mobile phone thieves, and often tend to use old-fashioned phones which are less desirable to thieves. Most adults change their phone only when it has been stolen or it's not working anymore. The youth like to stay in fashion, so, as soon as they have the means, will acquire a new phone.

All focus group members say they have mobile phones to enable themselves to be contacted and to contact people (family, friends, business partners) anywhere, anytime. Most use their own income to buy their phones, although there are some cases where phones are a gift.

The cost of mobile phones is becoming more and more accessible. Today, US$50 can buy a handset with a SIM card. Those who buy their phones do so without planning beforehand: they just go to the shop and pay cash, although women tend to save up in advance.

According to some respondents, the use of mobile phones should not be related to income levels. The phone is a vital necessity, and with accessibility becoming more and more affordable, all adult Cameroonians should have a mobile phone, they say. Others, mostly women, say mobile phones should be used only if people have a certain income.

USE OF MOBILE TELEPHONES. Mobile phones are becoming an indispensable tool for Cameroonians. They use them for their social and professional communications, to call relatives and friends and as a working tool. Even those who do not own their own phone will borrow phones, for various reasons:

- Lack of credit on their phone;
- Discretion and anonymity;
- Fun to use a different phone (youth); and
- Emergency cases when you don't have your phone near you.

ENTRY LEVELS OF MOBILE OWNERSHIP. Although opinions are quite divided in terms of level of income to start using mobile phones, most people don't think that income should be a prime criterion for the possession of a mobile phone. Still, people who only have a monthly income of US$50 will probably have to sacrifice something else to have their mobile phone, and would probably be better advised to use public phones for communications purposes.

AFFORDABILITY AND CHURN. Apart from the youth, most people change their phones only if they are stolen or not working. Women tend to keep their phones longer than men, for various reasons: less financial means, a dislike of change, or an aversion to new technology.

Similarly, most people consider the cost of the handset before the cost of the actual communications. Staying in touch is the prime criterion. Pre-paid pricing strategies have rendered communication costs more affordable and are reducing the barriers to access.

IMAGE AND STYLE. With the wide availability of mobile phones, it is difficult to determine the social rank of people from their mobile phones. Most respondents don't link the type of mobile phone people carry with their rank in society. Many people will carry expensive phones to portray an image, while others will use old-fashioned phones to avoid theft.

Cameroonians are also very practical. For the majority of respondents, a phone is used to make calls

and receive messages. Apart from the youth who look for special features like cameras, most people look for these features:

- The reliability and quality of communication (call and reception);
- Good memory capacity;
- Messaging;
- Calculator, clock, organiser;
- Vibration facility; and
- The robustness of the handset.

3G is not yet widely in use.

ISSUES OF CREDIT AND AIR TIME. Mobile operators offer a wide range of communication airtime cards to suit all categories of the population. Cost of pre-paid cards range from US$1 to US$60. With the "Me2U" service introduced a year ago by MTN, a user can transfer credit to another user. Apart from some people who plan their airtime purchases, most respondents buy airtime when their credits are exhausted or when they have the money.

THE NATURE OF "BUZZING". Buzzing, or "beepage" – where one person leaves a missed call on another's phone to get them to call back – is a usage pattern popular in Cameroon. People "beep" even if they have credit on their phones. Among the youth, especially girls, buzzing is a daily activity. Professional men buzz rarely, while professional women buzz their husbands because they know they have credits and will call back. Buzzing is also used as a mean of non-verbal communication: buzzing once means hello, and the receiver doesn't call back. Buzzing more than once means there is an emergency, and the receiver should call back.

SIM CARDS. All owners of mobile phones have at least one SIM card. A second SIM card is generally from a competitor operator to stay in touch all over the country, as the operators do not cover the entire country. Also, the cost of communications between the two mobile providers is not yet harmonised. A call from one provider to another costs more than a call to the same provider.

SMS ISSUES. With the reduction of communication costs and the introduction of new services (more time access, credit transfer, per second pricing), people are using fewer SMSs than before. The main reason for using SMS is because is it cheaper than calling. Although very popular amongst the youth, some respondents, mostly adult women, never use SMS:

- They don't have the patience to formulate sentences in that small space;
- They don't trust the service, and are not sure if the message will arrive at the addressee; and
- They don't have instantaneous answers.

For those who use SMS, they use it because:

- It's cheaper than phone calls;
- A lack of credit;
- Privacy and confidentiality;
- Detail in the message; and
- The ability to save the message you sent.

SERVICE PROVIDERS. For the past five years, the mobile sector has had two operators, MTN and Orange. Users don't really perceive a difference between the two, as the same pricing strategy, the same quality of services and an equal number of customers make them almost indistinguishable. The choice of a mobile service provider is therefore motivated by the perceived quality and the extension of the network. People say MTN is the best choice because its widely represented around the country and its network is more stable and reliable than Orange.

As far as cost, time accessing the network and other optional services goes, people say the two are almost the same. Most people who use Orange do so because:

- of friends or relatives;
- they want to be different from other members of the family;

- by affinity to French people;
- it's a gift;
- you can buzz outside the country; and
- time access for reception of your calls is longer than MTN.

Orange customers are less satisfied because:

- their network is not available right around the country and is not reliable; and
- arbitrary invoicing: sometimes your credit disappears.

INTERNET USAGE. The Internet is becoming increasingly available in the main Cameroonian cities. In the two major towns (Yaoundé and Douala) almost all popular neighbourhoods have their own cyber café. The cost of connection has steadily decreased to between US$0,60 and US$1 per hour. Still, this remains high for the average user. The primary users are mostly the youth and professionals. People use the Internet mostly for email, research, information and chat. The lack of Internet training limits the capacity of people to benefit more fully from Internet. The Internet is also being used as a matchmaking service: one young woman admitted to using the Internet to "find her white husband".

The cyber cafés are the most common places to access the Internet, followed by offices, schools and a tiny minority of houses. The sample shows the same configuration. Professionals and employees connect mainly from the office during work hours. For other categories of users, there is no specific period when they prefer to use the Internet. They go when they feel the need. The speed of the connection and the crowd at the cyber café are also determining factors. Some go to cyber cafés in the morning because it's less crowded at that time, and the speeds fast.

Apart from professionals and some employees who have access to Internet all day in their offices, and therefore use it daily, a good majority of users can't afford access as they want because of the cost. On average, they use Internet once every two weeks and spend about two hours online. Students go almost every day for their research and spend 30 minutes at a time.

COST FACTORS AFFECTING THE USE OF THE INTERNET. The cost of connectivity is a limiting factor for Internet access. Respondents say that the cost is still high. On average, the cost of connection is US$0,80 per hour. One way to cut costs is to look for cyber cafés with high-speed connections. Students, however, particularly struggle to afford connectivity for the amount of time they need to be online. By using the Internet, they don't have enough money for other essential goods as clothes and transport.

Most people don't plan their Internet expenditures because they don't use it frequently. Students go to the university area where the connection is cheap. For those who plan their expenditures, they will buy a three-hour ticket at a cyber café because it is cheaper.

EMAIL. All Internet users have an email address to communicate with their friends, relatives and business partners inside and outside the country. Generally, people receive more mails than they send. With the low frequency of use of the Internet, except students who do more research than email, people receive an average of eight messages and send four per session.

INTERNET CAFÉS. Internet cafés are very popular in the main cities in Cameroon. With VSAT, providers offer a different quality of Internet services in terms of connection speed. The choice of an Internet café is motivated by:

- the quality of the connection;
- the proximity for safety;
- the reception and the behaviour of the manager; and
- the cost of the connection.

The equipment, software, hardware and comfort are not key determinants in choosing an Internet café. Respondents say they are not ready to pay more for

those elements. Most important for them is the speed of the connection because it is strongly correlated with the amount of money they pay. Users are prepared to pay more for a better connection.

ENTRY AGE TO THE INTERNET. The Internet is considered by respondents as a tool which stimulates people's interests and develops individual abilities. But there is an ongoing debate on the best age to start using it. 50% of the respondents say that as soon as children know to read and write, they should be taught to use the Internet. The other 50% feel the Internet should be used only once children reach the age of 18.

SOURCES OF INFORMATION. By order of priority, sources of information are radio, television, newspapers and the Internet. The radio is widely available in homes and can be carried everywhere. Television is popular because of its visual impact and its availability at home. Newspapers are less popular because readers have to buy them and people don't like to read. The Internet is not accessible and is costly.

GENDER, TELEPHONY AND THE INTERNET. The findings of the survey show that men and women behave differently as far as telephony and Internet are concerned. These differences in access, usage and expenditure pattern are the result of disparities observed in society in terms of gender relations.

Generally, women are less educated, less trained and less affluent than men, and very few are at the decision-making level. The disadvantage women have in the information society is also a result of the lack of gender-related issues in policy and strategy formulation. ICT policies and strategies, when they exist, don't mention how gender aspects are going to be taken into consideration. By ignoring this, the majority of the population is ignored. The marginalisation of women in society in general, and the information society in particular, puts them in a position where they can't draw, as men do, on the benefits of the digital society.

From the research, the main gender problems are:

ACCESS AND ACCESSIBILITY. In rural areas, fixed phones and the Internet don't exist. When rural people want to use them, they have to go to the nearest town. Women, with all their responsibilities, are limited in their movements. In towns, very few houses have access to the Internet and fixed phones, and the majority of the population can only access these technologies from public places. Again, this requires availability of the user. Women have triple roles in the society – reproductive, productive and social – which does not leave them much time to do other things.

EDUCATION AND TRAINING. Education and training are limiting factors affecting more women than men in using ICTs. The disparities in education between girls and boys start sometimes at the primary level. Parents who struggle to pay for education will choose to educate their sons to the detriment of their daughters. Another factor is the fact that too few women choose scientific or ICT subjects at school. With these handicaps, women have less of a chance than men to have the required education and training to use Internet and telephony to their best advantage.

CONCLUSION. In an era of globalisation, the availability of modern information and telecommunications networks is not only a determining factor in national and international competitiveness, but also offer opportunities for the creation of wealth and jobs which countries like Cameroon so need. The acceleration of the usage of ICTs in the main economic and social sectors in Cameroon should be prioritised to improve productivity, the quality of products and services and the development of human resources.

Given the findings of the research, the ICT sector, particularly telephony and Internet, still face challenges

in Cameroon. Access to the Internet is still limited for the majority of the population. As for fixed lines, people are turning to mobile phones in increasing numbers. The marginalised position of women in society limits them from enjoying the potential advantages provided by ICTs.

In summary, the demands of the population are:

- Mobile phones:
  - Improve the coverage and quality of the networks of both providers;
  - Reduce the cost of communication so that mobile telephony is accessible to all adult Cameroonians; and
  - Lowered restrictions of time access to the network.
- Fixed phones:
  - Create more lines for customers;
  - Facilitate the process of obtaining a line by improving the quality of service: two years to get a line doesn't make sense; and
  - Accelerate the process of privatisation of the incumbent, Camtel.
- The Internet:
  - Improve the quality of connections by offering high-speed connectivity;
  - Increase access to the Internet by encouraging more cyber cafés in urban and rural areas. Pay special attention to unprivileged groups such as women;
  - Reduce the costs of Internet access;
  - Raise awareness of the benefits of the Internet to women; and
  - Provide more training to use the Internet efficiently.

On the policy front; there is an urgent need for a universal access policy. Universal access must be equitable for all. Those involved in the telecommunications sector, public, private and civil society should reassess and redefine their priorities and objectives according to the needs of the population. Policies and strategies should take into consideration the gap in terms of gender, level of income and education. For equity, developmental, social and economic reasons, the government should accelerate the opening of telecentres in rural areas. Telecentre developments should be integrated with other service delivery by national, provincial and especially local government.

The need for coordinating efforts and creation of synergy requires a multi-stakeholder approach from government, private sector and civil society to tackle the various problems facing the country. The Telecoms Regulatory Board has a key role to play. As the watchdog in the sector, it has to provide human capacity, expertise and the means to provide an conducive environment to the various operators. ❑