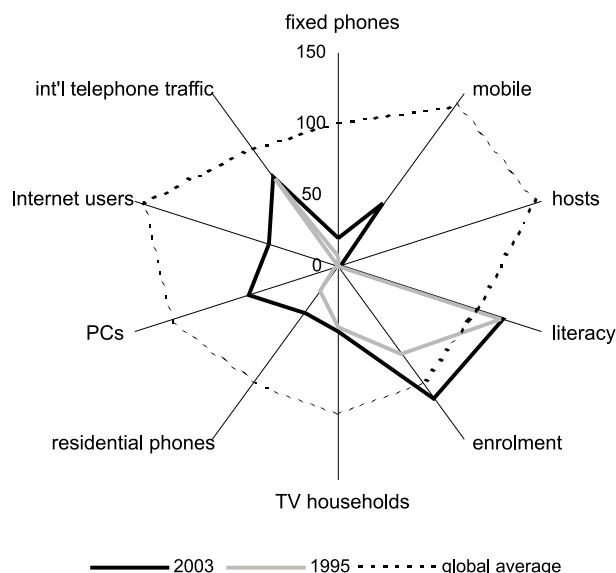




Mongolia

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Source: *Monitoring the Digital Divide*. © Orbicom 2004

Overview

Mongolia has come a long way since Genghis Khan introduced a point-to-point horseback postal system in the 13th century. The country now has 3 telecommunications companies, 6 ISPs, 2 mobile phone operators, and over 50 software development companies. There are an estimated 50,000 people working in the ICT sector. The sector contributed 6.3 percent to the country's GDP in 2003;¹ this contribution has been rising steadily from 2002–2003.

A number of progressive changes occurred in the ICT sector in Mongolia during 2003–2004. A new Department of Information and Communications Technology (ICT Department) has been set up at the Ministry of Infrastructure; previously, there was only one person looking after the ICT sector at the ministry. This department drafted a law on ICT in consultation with various stakeholder groups. These groups include representatives of government organisations and agencies, NGOs, donor and international organisations, as well as representatives of the media. The draft law has been presented to the government. It will be submitted for another round of discussion and lobbying within the government and among members of parliament after the June 2004 national elections led to the formation of a new coalition government and the election of new members of parliament. The new government, recognising the importance of ICT for development, has established the Information and Communications Technology Agency (ICT Agency).

The acquisition of a major portion of shares in Magicnet, the first ISP in Mongolia, by Bodicomputer, the second ISP in the country, has laid the groundwork for more mergers and acquisitions within the ICT sector. The number of ISPs has now been reduced to six. However, the total bandwidth to Mongolia has grown owing to connections established by RailCom, in collaboration with TransTelecom and China Unicom, and the resulting access it obtained to fibre optic links with neighbouring China.

The telecommunications sector is headed for change with the announcement that a third mobile operator will be licensed and the Mongolian Telecommunications Company

(MTC) will be privatised. These two plans were unveiled by the previous government but left to the new government to implement.

The merger of the two NGOs dealing with ICT issues in Mongolia – the Mongolian Information Development Association (MIDAS) and the Mongolian Information Technology Association (MONITA) – has helped to raise the visibility of Mongolian ICT stakeholders in the global ICT community. Mongolian NGOs have now joined the World Information Technology and Service Alliance and the Asian–Oceanian Computing Industry Organization, thereby increasing the opportunity for Mongolian ICT stakeholders to participate in international initiatives.

Online services

The total number of active Internet subscribers has grown by 8 percent since 2002, when there were about 40,000 registered subscribers and over 140,000 Internet users.² The number of names registered under the “.mn” domain has been growing steadily, and 1,300 names were registered as of mid-2004. An increasing number of local organisations are registering “.mn” domain names.

Telemedicine

A telemedicine project was started linking six locations in the country to the Third Hospital. Chest X-rays taken in these six locations are transmitted to the Third Hospital where they are reviewed by the country's leading cardiologists, who then send their diagnosis and advice back to the doctors at the six locations.

Distance education and e-learning

The public administration reform programme of the Asian Development Bank has supported the installation of videoconferencing facilities connecting 12 *aimag*³ and the

Communication and Information Technology School of the Mongolian University of Science and Technology. The facilities are being used to train government personnel. The Ministry of Education, Culture and Science has engaged the school to conduct e-learning programmes in 15 subjects. Each programme involves 40 hours of interaction via videoconferencing. Two pilot programmes in mathematics and biology have been successfully conducted for more than 300 teachers. Training in the remaining 13 subjects is being conducted over the 2004/2005 academic year.

World Bank staff and representatives from the government, businesses and NGOs involved in various World Bank projects are using the bank's Global Development Learning Network to conduct videoconferencing. The World Bank is also supporting the Fiscal Technical Assistance Project, which has built a nationwide network connecting government fiscal units at the aimag level. Offices at the *soum*⁴ level will be connected at a later stage. The network is currently used for transmitting government fiscal data and information, but it can also be used for accessing the Internet and other online services, including distance education.

E-commerce

E-commerce has not been widely introduced in the country, with banks providing the most sophisticated services. Golomt Bank and the Trade and Development Bank were the first to introduce online banking services, including providing online account statements. Other banks have begun to follow suit. Although no statistics are available on the number of registered users of online banking in the country, Golomt Bank reported over 2,400 users of their service. Credit- and debit-card services are becoming more widespread with card payment now accepted in selected hotels, restaurants, banks, shops and even hospitals.

E-democracy

An e-democracy project was implemented by the Mongolian Foundation for Open Society (MFOS), also known as the Soros Foundation. It consisted of two components: training in e-governance at the E-Governance Academy in Estonia and developing the concept of e-democracy for Mongolia. A team of Mongolians participated in a five-day training programme on e-governance at the academy during which the experiences and expertise of Estonia were shared. For the development of the e-democracy concept, an international expert was invited to introduce the concept to officers of the Cabinet Secretariat, Parliament, the Presidency and other government organisations, as well as to representatives of civil society organisations, businesses, and members of the ICT community. After that, the draft concept paper was developed with the participation of NGO representatives, ICT professionals and policy makers.

Industries

Telecommunications services

The privatisation of MTC has not commenced, even though the government had planned for it to take place before the end of 2003. The country's telecommunications network is gradually being upgraded from an analogue switching system to a digital system. All aimag central telecommunications networks and around 20 percent of the major soum networks have been upgraded. MTC also operates 23 VSAT stations.⁵

RailCom owns and operates a large part of the fibre optic network in Mongolia. The company has made an aggressive entry into the country's telecommunications market, especially after signing agreements with TransTelecom (Russia) and China Unicom to connect the northern and southern terminals of its network to the networks operated by these two companies. RailCom leases its cable network to mobile phone operators MobiCom and Skytel and to ISPs Magicnet, Micom and others. However, the telecommunications sector continues to be restrained; privatisation of MTC will hopefully lead to the opening up of the sector to full competition.

MobiCom continues to be the leader in mobile phone services in Mongolia. Its services had reached all aimag centres by the end of 2003 with over 250,000 subscribers signed up. In order to reach the aimag centres, MobiCom had built, in some cases, a new telecommunications backbone using fibre optic cable, radio links and VSAT.

MobiCom and Skytel will have to contend with greater competition when a third mobile operator is awarded a licence. Invitation to bid for the third licence was issued prior to the mid-2004 national elections, but the elections have delayed the processing and award of the tender.

The World Bank in March 2004 started a study to evaluate the feasibility of establishing a Universal Service Obligations Fund to facilitate universal access in the country. The main thrust of the study is the provision of telecommunications access to rural areas, in particular to soum and the herding community.

Internet services

Two ISPs, Bodicomputer and Magicnet, merged in 2003, setting a trend for more mergers and acquisitions to follow in the industry in the near future. At the same time, new ISPs started operations in rural areas either as primary or secondary service providers. Erdenet was the first rural area to receive ISP services in 2000. Since then, an ISP has set up in Khovd, and another is planning to set up in Dornod.

Two more Internet exchanges have been established in Mongolia in addition to the Mongolia Internet Exchange. The two new operations are dedicated to Internet data traffic that originates and terminates within Mongolia.

Internet cafés and public access centres

The number of Internet cafés remains stable. However, there is a growing tendency to convert them into online gaming centres so as to recoup the high cost of Internet connections. The gaming centres run online and networked games that target the youth.

The Metropolitan Library continues to be a model public Internet access centre. NGOs, international agencies and donor organisations are supporting the establishment of public Internet access centres.

Hardware and software

The National IT Park, established with the support of the South Korean and Mongolian governments, provides opportunities to new ICT entrepreneurs through its incubator programme. The costs for the use of the premises, electricity supply, Internet connections and other utilities are borne by the National IT Park to reduce the financial burden on

newcomers to the industry. There are more than 20 small companies and groups of entrepreneurs hosted there. Applicants for the incubator programme face fierce competition. The performance of successful candidates is evaluated six months after placement in the programme against the business plans they submitted earlier.

Key national initiatives

MIDAS enjoys a good reputation for representing the interests of various stakeholders of the ICT sector. The NGO has been implementing projects and organising activities to support and promote the development of ICT in Mongolia with the collaboration of stakeholders, government officials, businesses and other NGOs. The association has also become a key contact point for international agencies and donor organisations. MONITA, another NGO, recently merged with MIDAS.

The Mongolia Development Gateway is promoting ICT development through activities such as hosting websites for

Cyber aimag

The Mongolian Foundation for Open Society has been supporting and funding the establishment of community information centres (CICs) in 3 of the 21 aimag in Mongolia for more than four years. The main objective of the CICs is to introduce Internet services to people living in rural areas. This portion of the population comprises about 1.5 million people.

After the main objective of the CICs had been achieved, which was confirmed by a mid-term evaluation of the project, the foundation proceeded to implement the cyber aimag project in these three aimag. In this phase, high-speed radio modems were deployed to directly connect secondary schools, tertiary educational institutions, the local governor's office, the judiciary, and FM radio stations to the Internet so that they do not have to pay telecommunications charges.

As a result of these initiatives, over 5,000 residents of the three aimag have been successfully introduced to the Internet and its services. They can now communicate by email. A boy living in Dornod aimag could talk to his mother, who was working in South Korea, using VoIP. Herders use the CICs to send email to their children who live in other places. Youths make use of the CICs to chat online with their friends living in and outside Mongolia.

Despite these successes, many issues remain to be addressed by the people of these aimag. Among these are the ownership of the CIC network, maintenance of network equipment, building of human resource capacity, securing funding for Internet connections, and management of the network and connections. Human resources are one of the most important factors determining the continued success of the project. Recruitment for the cyber aimag project was done by the local governor's office in consultation with the project implementation staff. Some of the people hired did not have knowledge and experience in ICT, while some others had some ICT background but no experience managing such large-scale projects.

The project has included training for the managers and technicians recruited. The training seems to have been largely successful. The manager of the cyber aimag project in Dalanzadgad, Umnugovi aimag, was offered the position of human resource manager by one of the leading mining companies in Mongolia and appointed to head their office in Dalanzadgad aimag centre. The manager of the Dornod cyber aimag developed a business plan to transform the project into a state-owned enterprise in order to sustain its operation in the long term.

The only problem was with the Bayankhongor cyber aimag project, which failed because its manager had little experience and no vision of the future of the cyber aimag network. It is hoped that an NGO will be formed in future to expand the cyber aimag network.

poverty reduction and rural development projects. It launched the official website of the Mongolian Economic Growth Support and Poverty Research initiative in July 2004 to disseminate information about the strategies for implementing, monitoring and evaluating activities related to poverty reduction.

Regulatory environment

In 2002 and 2003, two major plans were considered and approved by the National ICT Committee, an advisory body to the government. The first was the setting up of the National IT Park, and the second was the establishment of the ICT Department within the Ministry of Infrastructure. The ICT Department is responsible for all issues relating to ICT, including information and network security and the development of policy and regulatory documents. It initiated the drafting of the ICT law.

The draft ICT law was not well received by government organisations, businesses and civil society organisations. A working group was formed to review and propose amendments to the draft law, supported by technical assistance provided by the World Bank and MFOS. The bill consists of one general law and three supporting laws on e-governance, digital signatures and electronic transactions. The amended draft law has been submitted to the government for review.

The Communications Regulatory Commission was established with support from the World Bank and the Asian Development Bank as an independent regulatory and licensing body for the ICT sector. In practice, it is not totally independent, since it reports to the Office of the Prime Minister and the ICT Agency.

Open source movement

MFOS introduced open source software to the local ICT community through three Mongolians who participated in an eRiders open source project. This was followed by a national seminar on open source held in Ulaanbaatar in March 2004. The event brought together representatives of software development companies and the government. Policy and regulatory issues related to open source software as well as the coordination of and collaboration on its development and use were discussed. The national seminar was a follow-up to the regional open source workshop organised by the Asia-Pacific Development Information Programme.

Research and development

MIDAS has been involved in a number of studies, including a project supported by IDRC to look into the ICT policy and regulatory framework of Mongolia. The project sets out to analyse approved laws, regulations and policy documents.

Another project is a feasibility study of videoconferencing facilities supported by MFOS.

InfoCon Co. Ltd and the Mongolian Development Gateway jointly conducted research into the current status of ICT development in Mongolia. The results were published in late 2003. The study assessed the infrastructure, the market as well as the legal and regulatory environment for ICT in Mongolia. It also looked into the information infrastructure and information sources in the country. Several households in Umnugovi aimag that owned computers were studied to learn about information usage in rural areas.

Trends

Although steps have been taken to address policy and regulatory issues, the lack of an ICT law will affect the development of ICT in the country. Public opinion differs on the draft ICT law. Arguments for the enactment of the law include the creation of favourable conditions for the development of ICT; the presentation of an opportunity for the government to consult with the public on the new technologies and to raise awareness; and the promotion of ICT use in businesses through incentives, tax exemptions and other benefits as stipulated in the law. Opponents of the law take the position that ICT has been developing in Mongolia over the past ten years without any regulations and that the new law may actually impose constraints on its further development.

Another concern that needs to be addressed relates to the lack of autonomy of the Communications Regulatory Commission, the principal regulator of the ICT sector, which continues to report to the government. The regulator also lacks knowledgeable and experienced staff, with only one person handling Internet- and information-related issues.

The National ICT Committee has been involved in a number of initiatives to promote ICT development in the country. It succeeded in obtaining investment from the South Korean government to build the National IT Park as well as assistance from the Indian government to establish videoconferencing facilities and public Internet access points. However, the committee remains an advisory body. Mongolia lacks a national ICT programme to introduce ICT to all sectors. The recently established ICT Agency has been given the role of coordinating ICT-related activities across the different sectors.

An increasing number of training institutes have been established to meet the growing demand for professional and technical personnel in the ICT sector. ISC Mongolia and the Cisco Academy offer internationally certified engineering courses, which are slowly gaining popularity among ICT workers. Enrolment is expected to grow along with increasing demand from software development companies for internationally certified workers to work on outsourcing contracts.

Content development is another important area for action. Although websites are growing in number, so is static and rarely updated content. Content producers need to understand the importance of keeping online information current, as static content will discourage users, ultimately defeating the purpose of the websites.

Notes

1. Communications Regulatory Commission (2003).
2. InfoCon (2003).
3. An aimag is an administrative unit. On average, there are around 75,000 people living in one aimag within an area of 80,000 square kilometres.
4. A soum is an administrative unit smaller than an aimag, usually with around 1,000–5,000 people. Each aimag has 15–20 soum.
5. Post and Telecommunications Authority of Mongolia.

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