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Telecommunications in Jordan

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8.1 Introduction

Jordan, like most countries profiled in this volume, faces the most difficult task of revamping, restructuring, and reinvigorating its telecommunications sector while meeting the other social needs of its citizens. No country can minimize the importance of having a modern, ubiquitous telecommunications network. Jordan has taken numerous steps toward improving its telecommunications sector; however, these initial steps will have to be accelerated if the country is to achieve its vision as a center of international trade and finance.

The Hashemite Kingdom of Jordan is one of the central states in the Middle East. It is bordered on the west by Israel, to the north by Syria, to the east by Iraq, and to the south by Saudi Arabia. Situated in the heart of the Middle East, Jordan has served as a trading post between Asia and Europe and as a critical component of the region's socioeconomic structure. It covers almost 38,000 square miles, has a population of nearly 5 million people, and is a relatively young country, with an average age of 17. Its gross domestic product is over $5 billion, with per capita gross domestic product valued at $1,150. Jordan is mostly desert, although 5% of its landmass is arable, and it has a small coastline of 16 miles on the Red Sea. Located on this short stretch of coast, the city of Aqaba, the only port of Jordan, is almost 300 kilometers due south of Amman, the capital of Jordan.

8.2 History

The area that would become Jordan was not organized into a separate nation until 1921, when Britain formed the state of Transjordan, and put Abdullah ibn-Husein, the grandfather of King Hussein, in nominal control. Before this time it had been ruled by the Ottoman Turks from 1517 to 1918, and before that the area had been controlled by the Egyptians, Assyrians, Babylonians, Persians, Romans, and Arabs at various times through history. In 1918 British and Arab troops pushed out the Ottoman Turks, and after the war, the League of Nations awarded the area as a mandate to Britain.

In 1928 Transjordan received qualified independence from the United Kingdom, and on 22 March 1946 it received full independence. King Abdullah merged Transjordan with all of the Palestine lands and changed the name of the country to Jordan in 1950 and joined the United Nations in 1955. Constant tensions with Israel and less frequently open wars have marred Jordanian international affairs since 1950.

Economic disaster struck in the late 1980s. Long a debtor nation, owing to its lack of natural resources and heavy industry, its debt problems came to a head when it ran out of foreign currency in 1989. International monetary organizations had to step in and restructure Jordan's debt and increase the stability of Jordan's currency, which had lost half of its value. Before Jordan had the chance to recover from this disaster, another struck.

The Iraqi invasion of Kuwait triggered an inflow of over 300,000 Jordanians who worked in the Gulf states and had been sent home by various nations. These people lost their jobs, which represented a net inflow of credit to Jordan, and when they returned to Jordan they increased the unemployment rate, which was already high. In addition, international trade was severely curtailed because of the world opinion that Jordan supported the Iraqi invasion. The cost of the war for Jordan has been estimated to be anywhere from $1.77 billion (Overseas Development Institute, United Kingdom, only direct costs) to $8 billion (Prime Minister Mudar Badran, Jordan, both direct and indirect costs), but a more likely figure is $5.11 billion (Crown Prince of Jordan, both direct and indirect costs). Regardless of the actual cost, it was not a price that Jordan could afford to pay. As international trade returned to normal, the Jordanian economic situation began to improve. With the signing of the 1994 peace treaty with Israel, ending a 46-year-old state of war, the future of Jordan began to improve. After the peace treaty, the United States government "forgave" a couple hundred million dollars of debt and urged other industrialized nations to do the same, while Jordan's remaining debt was rescheduled. Along with the signing of the peace treaty, international investment began to return to Jordan in larger amounts, but continued aid and investment will probably still rely on the progress of the peace process in the Middle East.

8.3 Telecommunications

8.3.1 History

The introduction of telecommunications in Jordan dates to the end of the nineteenth century when the Ottoman Empire used the telegraph to strengthen their rule. When Jordan was absorbed into the British Empire during the early 1920s, the telegraph fulfilled the same role, but for different masters. The telegraph, and the telephone that supplemented and eventually replaced it, were reserved for purely governmental purposes until the 1960s.

The formation of the Telecommunications Corporation (TCC) in the 1960s, as the monopoly provider of telephone service, illustrated the shift of telecommunications from a government tool to a public service. As illustrated in table 8.1,

Table 8.1 Telephone Lines in Jordan

Year	Lines	Lines per 100 People
1950	3,829	0.3
1955	9,300	0.7
1960*	20,500	1.25
1966*	26,000	1.29
1971	31,104	1.3
1977	43,720	1.6
1981*	77,000	3.2
1985	130,000	4.8
1988	211,695	6.7
1991	273,226	6.3
1994*	300,000	6.7
1998**	600,000	10.0+
2008**	1,200,000	20.0+

*estimated

**planned

growth in the number of telephone lines since the inception of TCC has been relatively stable.

The five-year plan from 1976 to 1980 improved service quality and quantity greatly. Many manual and electromechanical switches were replaced with automatic exchanges (6 x Fetex-100, 7 x Pentex), and the number of telephone lines was almost doubled. The telex system was refitted also, from an electromechanical to a fully automatic system, increasing the number of lines from 890 to 2,032.

The next five-year plan, from 1981 to 1985, also provided for improvements in the telecommunications infrastructure. Not only was aging infrastructure replaced with new technology, but public telephones were also installed in many towns that previously had no telephone service. By the end of the plan, telephone lines had nearly doubled again, and telex users had grown to 2,316.

Unfortunately, the next five-year plan was cut because of economic disaster. The plan consisted of two major parts, the first being a 200,000 line extension of the telephone service. The second was the privatization of TCC. The privatization was based on a feasibility study by Tele-Consult (an arm of British Telecom), and it was scheduled to begin in 1986, but it was unclear if the government planned on actually selling any of its shares. The extension of the number of lines was to be completed with help from Swedish Telecom International, and a contract had been signed with them when economic disaster struck. Instead of canceling the entire contract, a substitution in its terms was made to expand the service by only 60,000 lines. Although the stoppage of work was disastrous for the telecommunications service of the country, once the disaster was dealt with, the government reaffirmed its desire to improve its telecommunications service.

The continued stability of the Jordanian dinar after the 1989 crisis and the 1994 peace treaty with Israel has stimulated international investment in Jordan. In 1995 there was a total of $385 million in investment in Jordan, with minimal foreign investment, but for the first quarter of 1996 the total figure was $295 million, with

foreign capital accounting for $61 million. The first quarter estimates do not include large projects that have not yet been finalized, including a $500 million hotel development on the Dead Sea, billion dollar energy projects, and a potential $126 million Very Small Aperture Terminal (VSAT) network. More recently, it was announced that the preparations for the privatization of TCC would go forward, although the actual selling of the stock will not occur for at least two years.

8.3.2 Phase I (1994–1998)

With the recovery of the economy, the government has launched a plan to double the number of lines in Jordan. In 1994 there were roughly 300,000 lines in Jordan, yielding a penetration rate of over 6%, but it was estimated that this satisfied only 77% of the demand, meaning that 90,000 people who wanted service could not get it. Unsatisfied demand is expected to rise to 250,000 by 1997. To meet this demand, which is expected to grow at 8% annually, the TCC plans to double the lines from 300,000 to 600,000 by 1998.

In addition to the local network improvements, the connections that Jordan has with its neighbors will be improved. Included in the plan are fiber-optic links to Syria and Saudi Arabia as well as one to the Red Sea that will provide Israel and Jordan with access to existing European and transatlantic cables. A digital radio link with Cairo, Egypt, via the Sinai, is also envisioned.

This phase is expected to cost roughly $260 million and will increase teledensity to over 10%. The anticipated funding for this will consist of $200 million in loans from the World Bank, European Bank for Investment, Japan's Eximbank, and Jeddah-based Islamic Development Bank, with the remainder from Jordan's treasury. It is also expected that Swedtel will assign 50 experts to aid in the project, with the cost to be absorbed by Sweden.

8.3.3 Phase II (1998–2008)

As demand increases after 1998 (at an expected annual rate of 7.5%), the TCC plans to double the number of lines again from 600,000 to 1.2 million by 2008, thus bringing teledensity above 20%. The estimates for this phase of the project are $856 million ($214 for switching, $171 for transmission, and $417 for plant and building).

Included in this long-term plan is the desire to replace obsolete elements of the network with new digital instruments that will provide a capacity to support 1.35 million lines by 2003 to allow the entire phase II to be completed by 2008. This will involve the installation of five digital exchanges in Amman and one exchange in Irbid to replace older analog exchanges. By 2005, 12 digital exchanges and 57 remote switching units, which were installed from 1983 to 1987, will have reached the end of their lifetime and will have to be replaced. Current plans call for their replacement beginning in 2004, with the end result of adding an additional 250,000 direct lines, at a cost of $357 million, which could raise the number of lines in Jordan to over 1.6 million by 2010. Older transmission lines and equip-

ment will also be replaced, rehabilitated, and expanded at an estimated cost of $90 million.

Starting in 2004 the national backbone network will be restructured and replaced, adding fiber-optic cable and new technology into the system. This project is expected to run from 2004 to 2008 and cost roughly $17 million. Jordan has also shown interest in laying fiber-optic lines to other regional nations, including Saudi Arabia, Egypt, Lebanon, the West Bank, the Gaza Strip, and Israel. With the signing of the 1994 peace treaty, direct lines with Israel have been reestablished, ending years of routing calls through Cyprus, the United States, and Europe, but apathy on the part of Palestinian officials has slowed down attempts to link the Jordanian telecommunications system with that of Gaza and Jericho.

8.3.4 Private Sector Development

To limit the demands on the TCC, in January 1996 Jordan designated several services to be set aside for private company development, while TCC concentrated on the wireline network. The companies that provide these services can be joint ventures with foreign ownership, but the ownership is limited to a maximum of 50%. These services are the following:

Mobile communications	Intelligent network
Electronic mail	Dispatch system
Paging	VSAT
Packet switch	Internet access
Data network	Trucking system
Public phones	Citizen band CB

The VSAT system in particular has already received some international interest. Global Telecommunications Engineering and Globenet Holding Corporation have been retained by the Ministry of Planning to study the feasibility of installing a private sector VSAT network. The joint venture is backed by a grant of $124 million from the U.S. Trade and Development Agency.

Paging and cellular systems are currently operated in Jordan as private sector companies. There are plans to add a second paging system, which will be put up for bid in 1997. The cellular system is run by Jordan Mobile Telephone System, a subsidiary of Motorola, and supports 15,000 subscribers. The $55 million contract runs for seven years, has four years of exclusivity, and was signed in late 1994. Jordan intends to add a new cellular carrier in 1999, when the current monopoly agreement runs out.

Alone among Middle Eastern countries, Jordan offers uncensored Internet access. Service is provided by Global One/Sprint Jordan for roughly $15 per month. In addition to the service provider, there are seven on-line firms, all of which are privately owned but operate under government licenses. One locally owned on-line service, NETS, offers the most unique services. Through NETS, which has roughly 1,000 subscribers who are limited to English, subscribers can talk to government officials. The prime minister and information minister answer most questions that are posed to them on a vast array of topics, from the Israeli

peace treaty to methods for inspections of imported merchandise. Plans are now being developed to expand the use of the Internet by adding support for Arabic and to put computers into schools where more people have access to them.

8.4 The Future

The current state of telecommunications service in Jordan, while not good, is still much better than in many other nations of the region. With the current growth in the economy (estimated at 6.5% for 1996), the excellent and ambitious short- and long-range plans made to expand service, the enthusiastic support for Internet services, and the announced intention to move toward privatization of the TCC, the future of Jordan's telecommunications system is bright.