BAHRAIN

The State of Bahrain is an island city-state in the Persian Gulf off the coast of Saudi Arabia (Figure 34). Proximity and comparatively liberal trade and social policies have made Bahrain an attractive second address for wealthy Saudi Arabians and their businesses. Although oil was the foundation of its economy, Bahrain has developed into an international banking and business center. Along with the United Arab Emirates, it is one of the principal locations for the regional business offices of foreign companies.

Figure 34. The State of Bahrain

Bahrain is an emerging communications nexus with ambitions to become the principal connection point for regional telecommunications with the outside world. Infrastructure investment is a key government policy.

There is also a U.S. naval base in Bahrain, headquarters of the Commander, U.S. FIFTH Fleet, the mainstay of the U.S. naval presence in the region.

There have been sporadic demonstrations and some public violence in Bahrain over the past several years, principally on the part of the sizable Shi'ite community, which represents the lower income sector of Bahraini society. This violence, which has resulted in government repression and some suspension of civil liberties, has been targeted both at the Western presence in Bahrain and the restrictive policies of the Bahraini government, which the Shi'ites believe is discriminatory. The Bahraini government has accused Iran of inciting the violence as a reaction to the U.S. naval presence and in an attempt to destabilize the Bahrain government with a view toward building Iranian influence on the Western side of the Gulf.

Networks in Bahrain

Internet service, dubbed *inet*, was offered by the Bahrain Telecommunications Company (Batelco), the state's majority-owned telecommunications monopoly, starting in December 1995.[224] There are no plans to license any Internet service providers to compete with Batelco, which is also the *.bh* national top-level domain manager. Batelco was assigned a Class C network (1,024 IP numbers, 193.188.96.0-193.188.99.255), of which 23 are being used by Batelco for its own servers (Table 62).

[224] "Bahrain's Inet," *Middle East Communications* 10 (December 1995), p. 3.

Batelco's ISP site (www.batelco.com.bh), comprising Sun SPARCstation servers and Cisco 7000-series routers, was installed by Omnes, a joint venture of Schlumberger and Cable & Wireless, providing the island with two 128 Kbps international circuits to Omnes' Internet connection in Houston.

Table 62. Batelco *inet* Servers

Server	IP Address
ns.batelco.com.bh	193.188.97.197
sv1.batelco.com.bh	193.188.97.145
sv2.batelco.com.bh	193.188.97.158
sv3.batelco.com.bh	193.188.97.211
sv4.batelco.com.bh	193.188.97.199
sv5.batelco.com.bh	193.188.97.214
sv6.batelco.com.bh	193.188.97.212
sv7.batelco.com.bh	193.188.97.197
sv8.batelco.com.bh	193.188.97.195
sv9.batelco.com.bh	193.188.97.166
sv10.batelco.com.bh	193.188.97.227
sv11.batelco.com.bh	193.188.97.228
sv12.batelco.com.bh	193.188.97.241
sv13.batelco.com.bh	193.188.97.242
sv14.batelco.com.bh	193.188.97.243
sv15.batelco.com.bh	193.188.97.231
sv16.batelco.com.bh	193.188.97.232
sv17.batelco.com.bh	193.188.97.233
sv18.batelco.com.bh	193.188.97.244
sv19.batelco.com.bh	193.188.97.245
sv21.batelco.com.bh	193.188.97.157
sv22.batelco.com.bh	193.188.97.99
sv23.batelco.com.bh	193.188.97.100

The service has been very successful with both local and Saudi companies. There were about 1,000 subscribers shortly after launch and 5,000 subscribers by March 1997. The network was growing at a rate of about 400 subscribers per month. In September 1997, Batelco estimated that the Internet home market was about 3,000 subscribers; no estimate of the commercial market—by far the larger of the two—was provided.

Batelco offers dial-up and leased-line accounts. One innovation was the creation of the "*inet* Dial Direct" service, which provides the subscriber with a dedicated dial-up telephone number and modem. This service is targeted at "very small" businesses that need to connect a small local area network, or a department within a larger company that requires its own Internet access.

The dimensions of Internet capability in Bahrain are depicted in Figure 35, which also shows the development of the Internet in Bahrain from its inception two years ago until now, and listed and explained in Table 63.

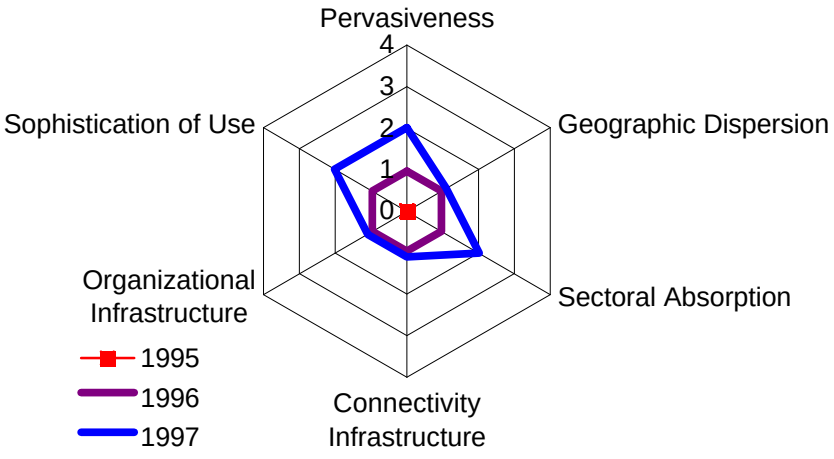

Figure 35. Internet Dimensions for Bahrain, 1995-1997

Dimension	Level	Explanation
Pervasiveness	(2) *Established*	At last report (March 1997), Bahrain had about 5,000 Internet users, less than one user for every 100 people. However, use of the Internet has spread beyond a core of computing professionals. Foreign subscribers have been key to the service's success.
Geographic Dispersion	(1) *Single Location*	Internet servers are located at only a single site and international connectivity is from this one location.
Sectoral Absorption	(2) *Moderate*	The Internet is in moderate use in three sectors, but virtually not at all in the health sector.
Connectivity Infrastructure	(1)	The connectivity infrastructure is provided by the national telephone network via dial-up and 64 Kbps leased lines. There are no Internet exchanges in Bahrain, and only a single international link.
Organizational Infrastructure	(1) *Single*	There is a single ISP in Bahrain, the state monopoly telecommunications company. There are no plans for privatization or competition.
Sophistication of Use	(2) *Conventional*	The Internet is used to enhance current processes, such as messaging, without fundamentally changing those processes.

Table 63. Internet Dimensions for Bahrain

Determinants

Development is a key policy of the Bahraini government. Although the GDP per capita is quite high, income distribution is increasingly inequitable and various standard of living indicators (Table 64) fail to reflect Bahrain's significant wealth. While the Internet was developed principally for commercial purposes, the overriding factor that has determined the development of Internet service in Bahrain is likely to have been security (Table 65). With sometimes violent internal dissent, an active external dissident movement, and the possibility of foreign interference in its internal security affairs, the government of Bahrain is under pressure to maintain civil stability while attempting to increase commercial development

Table 64.
Bahrain in Statistics

Metric	Value[225]	Remarks
Population	0.58	millions, 1995
Population density	879	per km^2, 1995
GDP	4.9	US$billions, 1994
GDP per capita	8,857	US$, 1994
Telephones	140.9	thousands, 1995
Teledensity	24.23	per 100 inhabitants, 1995
Teledensity in largest city	na[226]	
Cellular subscribers	27.6	thousands, 1995
Cellular density	4.75	per 100 inhabitants, 1995
PCs	29	thousands, 1995
PC density	5.03	per 100 inhabitants, 1995
Television sets (receivers)	255	thousands, 1995
Television density	43.9	per 100 inhabitants, 1995
Literacy rate	na	
Infant mortality	17.1[227]	per 1000 inhabitants, 1996 estimate

[225] Source: *World Telecommunication Development Report*, 3rd ed., 1996/97 (Geneva: International Telecommunications Union, March 1997), unless otherwise noted.

[226] Not available or not applicable.

[227] *The World* Factbook *1996*, <http://www.odci.gov/cia/publications/nsolo/factbook/ba.htm> (9 February 1998).

and attract more foreign businesses and investment to the island. While telecommunications services are vital to this development, the government will attempt to prevent these services from being used against it. Although there are no specific references to government surveillance, it is assumed that the government is attempting to monitor Internet traffic along with domestic and international telephone calls. No explicit policy of banning certain people or classes of users from Internet access has been announced. However, the cost of service (US$40 set-up fee, US$21.60 per month subscription fee, US$16 per hour usage fee) will likely prevent the lower classes, predominantly Shi'ite Bahrainis and foreign *gastarbeiter*, i.e., those of the greatest security concern to the state, from using the Internet. The pricing policy is most likely the result of commercial considerations, however. Batelco's policy is to charge the highest price that will not jeopardize take-up; that is, the company keeps prices at the upper bound of the perceived price elasticity of each service, making adjustments as necessary to maintain wide usage at the highest possible prices. The set-up and monthly fees charged by Batelco for *inet* service are quite reasonable by U.S. standards, but the imposition of an additional per-minute fee, which can raise the cost to the subscriber substantially, ensures that Batelco recovers the marginal cost of users' on-line time.

Table 65. Determinant Impact

Determinant Quality	Affected Dimension
Statist economy	Pervasiveness—inhibited by lack of competition Geographic Dispersion—inhibited by emphasis on revenue generation Sectoral Absorption—inhibited by emphasis on commercial sector Organizational Infrastructure—constrained by monopolist policies
Strong security policy	Pervasiveness—inhibited by possible prohibitions (none noted) or discouragement of use by some sectors of society; inhibited by monitoring
Small island national (geography)	Geographic Dispersion, Connectivity Infrastructure—constrained by small size of country
Excellent telecommunications infrastructure	Connectivity Infrastructure—supported by plentiful digital telecommunications for domestic and international connectivity
Support from local industries	Sophistication of Use—although not yet demonstrated, local IT industry is potentially capable of introducing innovation in Internet use.
Lack of a competitive environment	(a result of economic policy)

The government is apparently not, however, concerned regarding potential social problems, such as the availability of pornography or religious information on the Internet. It does not appear that Batelco has made any efforts to prohibit accessing certain services or Web sites or to prevent access to any particular areas of the Internet. Batelco does have a "Parental Control" page that offers links to 13 sites offering popular Web screening programs.

After security concerns, the most pressing issue for Internet development is commercial success. While there is apparently an internally-generated requirement for Batelco to offer all of the latest telecommunications services, both for reasons of prestige and to encourage foreign businesses to establish offices in Bahrain, each service is expected to generate profits. Like most telephone companies in the region, Batelco is relying upon the commercial sector to generate revenue for the *inet* service, and it has apparently been adequately successful thus far. Additionally, the lure of

the Internet has proven to be an added attraction for Saudi Arabians, resulting in the generation of additional foreign exchange revenues for the government of Bahrain.

Problems and Prospects

Use of the Internet is likely to continue to grow in the near term at a measured pace, driven principally by the commercial sector. As long as Batelco continues to hold a monopoly position in the telecommunications sector, prices are unlikely to decrease significantly, effectively keeping Internet access out of the hands of the less well-off.

The markets for academic and occasional-use Internet services in Bahrain appear to be large yet under-served. Significantly, there is as yet no indication that the government is willing to subsidize Internet access for students, more likely a security rather than an austerity measure. There are also no public access Internet locations, such as a "cyber café," most likely due to regulatory issues derived from security concerns.

The Internet infrastructure in Bahrain will not grow significantly. The island is small enough to be served from a single location, especially given the concentration of users in the capital city, thus obviating the need for an IP-based backbone. International bandwidth may be increased, depending upon demand and the ability of usage charges to cover the cost of any bandwidth increases.

If and when public Internet service is available in Saudi Arabia (see below), Batelco is likely to lose a noticeable portion of its *inet* subscribers. Most Saudis are likely to relocate their Internet activities to Saudi servers. As most Saudi businesses have registered their domains with the InterNIC in the United States, rather than with the Saudi or Bahraini TLD administrators, relocation of Web sites will not necessitate a change of address (uniform resource locator, URL).