

Telecommunications services indicators in the Kingdom of Bahrain

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1 Introduction

The collection, analysis and dissemination of accurate and timely market information significantly enhances the design of effective, proportional and efficient market regulation. Consequently, the Telecommunications Regulatory Authority (TRA) collects market information from licensed operators on a twice-yearly basis.

Unless specified, the analysis presented in this Report is based on data collected from licensed operators.

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This is the second Telecommunications services indicators report and this report covers a large range of telecommunications services indicators, such as the number of subscribers, penetration rates, calls usage and telecommunications revenues.

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2 Overall Market data

2.1 Services offered by Licensees

As of December 2007 TRA has issued 152 licenses to 68 companies. Out of these 68 companies, 16 operators currently provide telecommunications services. Table 1 shows the services provided by each operator.

Table 1: Services offered by Licensees

	Operator Name	National Fixed	International Calls	Mobile	Internet	Leased line	Other data services ³
1	2Connect	√	√		√	√	√
2	ANIS		√				
3	Batelco	√	√	√	√	√	√
4	BT Solutions LTD						√
5	Business Communication Networks		√				
6	Etisalcom	√	√		√	√	√
7	Fakhro IT Services		√				
8	Fastelco (TeleGulf)		√				
9	Kalaam Telecom	√	√		√	√	√
10	Light Speed	√	√		√	√	√
11	Mena Telecom		√		√		
12	Northstar		√		√		
13	Nuetel Communications	√	√		√	√	
14	Orbit		√		√		
15	Viacloud		√				
16	Zain (Bahrain)	√	√	√	√		
	Total	7	15	2	10	6	6

³ For example, LAN Connect services, Global Managed Private Line and Global IP-VPN.

2.2 Telecommunications indicators

The major telecommunications indicators in the Kingdom of Bahrain are set out in the table below.

In December 2007, the Central Informatics Organization revised its estimate for the 2007 population head count from 760,168 to 1,046,814. Penetration rates have mechanically dropped in 2007.

TRA has decided not to perform any adjustment to historical time series for the time being.

Table 2: Telecommunications indicators

Indicator	2005 ⁴	2006	2007	Compound Annual Growth Rate - CAGR ⁵
Population ⁶	724,645	742,562	1,046,814	
Number of households ⁷	113,441	116,533	158,823 ⁸	
Fixed line services				
Number of fixed lines	193,520	194,196	203,541	2%
Fixed line penetration	27%	26%	19%	
Number of residential fixed lines	121,918	122,343	116,951	
Percentage of households which have a fixed line	n/a	n/a	74%	
Domestic minutes originated from a fixed line (in million minutes)	788	894	972	7%
Mobile services				
Prepaid subscribers	635,277	756,268	923,702	13%
Postpaid subscribers	131,826	151,165	192,277	13%
Total mobile subscribers	767,103	907,433	1,115,979	13%
Mobile penetration as a % of total population	105%	122%	107%	
Mobile originated traffic (in million minutes) ⁹			1,571	
Internet services				
Dial-up subscribers	28,867	21,466	6,425	-39%

⁴ The numbers of the subscribers refer to the end of the year and the numbers of minutes represent the cumulative minutes during the year.

⁵ Compound Annual Growth Rate - CAGR representing the smoothed annualized growth over the investment time horizon.

⁶ The population head count is sourced from the Central Informatics Organization.

⁷ The number of households is sourced from the Central Informatics Organization.

⁸ The Central Informatics Organization has not yet revised the number of households; therefore TRA has extrapolated the number of households for the year 2007 based on 2006 data for its own analysis. The number of households extrapolated by adding the results of dividing the number of Bahrainis as of December 2007 by the average individuals per Bahraini household as of 2006 and dividing the number of non-Bahrainis as of December 2007 by the average individuals per non-Bahraini family as of 2006.

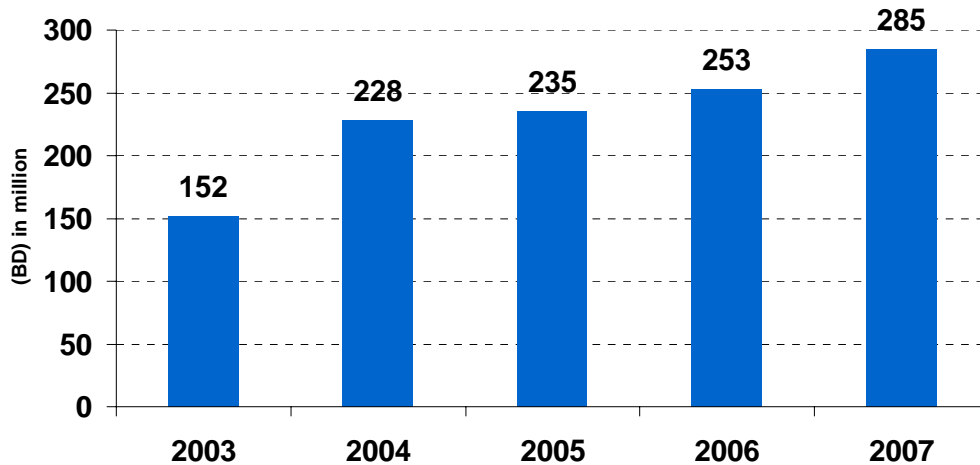
⁹ Mobile originated traffic including domestic calls and international direct dial calls only.

Broadband subscribers ¹⁰	21,432	38,628	73,563	51%
Total Internet subscribers	50,299	60,094	79,988	17%
Internet penetration	7%	8%	8%	
Broadband penetration	3%	5%	7%	
Number of residential fixed broadband subscribers	18,764	34,858	62,476	49%
Percentage of households that have fixed broadband	17%	30%	39%	
International Traffic (in million minutes) ¹¹	240	363	642	39%
Telecommunications revenues (BD in million)	235	253	285	7%
Number of employees in telecommunications sector	2,216	1,942	2,380	2%

2.3 Telecommunications markets revenues

Market revenues have annual average growth of about 17% since market liberalization in 2003. From a base of BD152 million in 2003, the telecommunications industry generated over BD285 million in 2007 with about 13% yearly growth (See figure below).¹²

Figure 1: Growth in telecommunications markets revenues



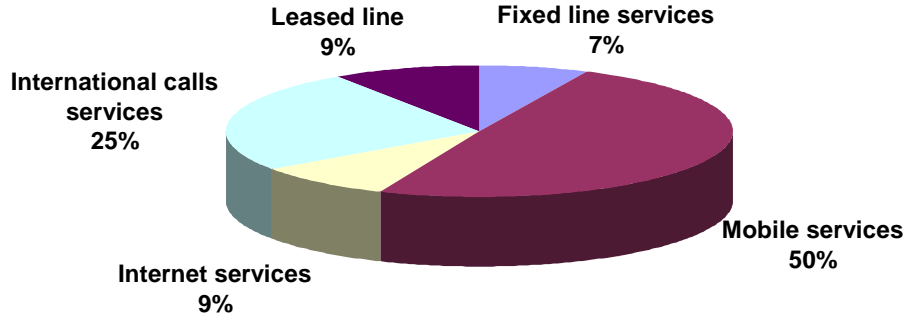
The figure below shows that mobile services revenues represent the majority of the telecommunications services revenues.

¹⁰ Broadband subscribers including wired broadband, wireless broadband and mobile broadband.

¹¹ International traffic includes international calls originated from international direct dial (fixed lines and mobile (IDD)), Carrier Pre-Selection (CPS) services, and pre-paid calling cards (PPCC).

¹² Source: Annual gross turnover arising from the licensees in the case of an Individual License.

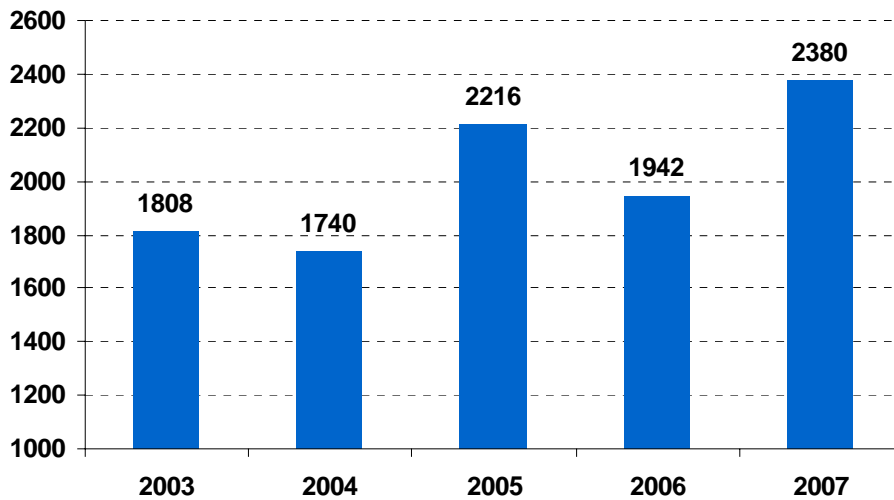
Figure 2: Distribution of telecommunications revenues at the end of 2007



2.4 Number of employees working in the telecommunications sector

The telecommunications sector is an important source of employment for the country. Between 2003 and 2007, 500 jobs were added. The number of employees grew from 1,800 to above 2,300 (see Figure 3).

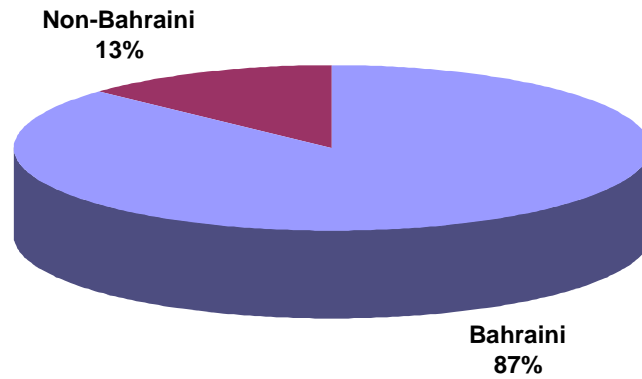
Figure 3: Number of employees in telecommunications market¹³



¹³ Batelco and OLOs exclude the staff of the services companies working in the telecommunications sector

Compared to other sectors (e.g. Bahrainisation in the Banking and Financial Sector stands at 72%)¹⁴ the sector achieves a high degree of Bahrainisation (87%).

Figure 4: Distribution of employees by nationality



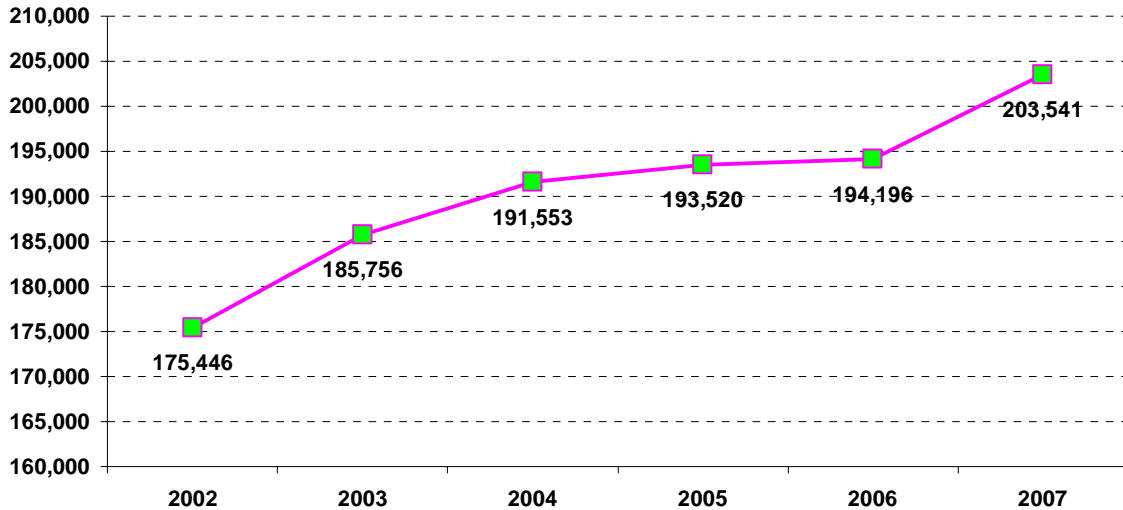
¹⁴ Source: Central Bank of Bahrain (<http://www.cbb.gov.bh/cmsrule/index.jsp?action=article&ID=102>)

3 Fixed line services

3.1 Number of fixed lines

By the end of 2007, there were 203,541 fixed lines compared to 194,196 in 2006. Figure 5 indicates that the number of fixed lines grew by 5% between 2006 and 2007.

Figure 5: Number of fixed lines



3.2 Fixed lines minutes volume

Table 3 shows that fixed line traffic increased by 0.4% between Q3 2007 and Q4 2007.

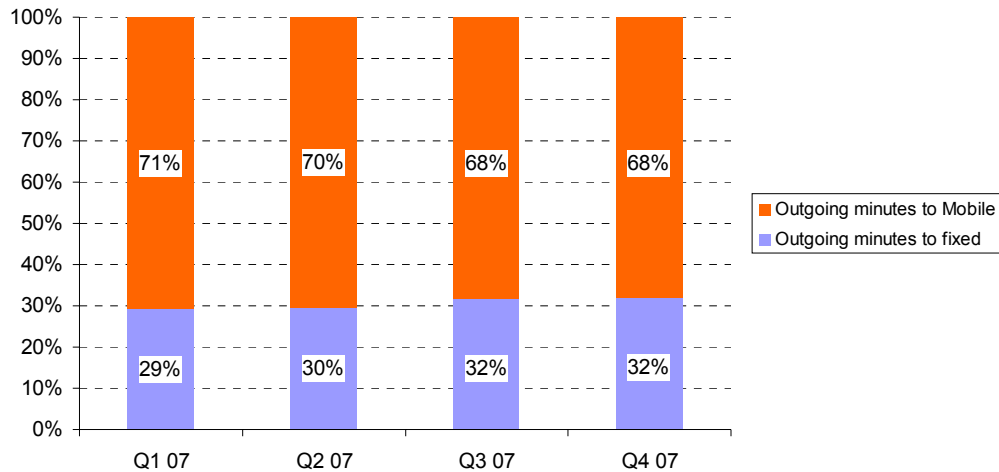
Table 3: Fixed lines minutes volume

fixed line traffic (in millions)	Q1 07	Q2 07	Q3 07	Q4 07
National outgoing minutes to fixed	70	73	77	78
National outgoing minutes to mobile	168	174	165	166
International outgoing minutes	IDD	n/a	n/a	12
	CPS	n/a	n/a	1.3
	PPCC	n/a	n/a	12
Total			267.3	270.3

3.2.1 Proportion of fixed national calls volume (Minutes)

About 70% of domestic calls originating from a fixed line are fixed-to-mobile calls.

Figure 6: Proportion of fixed national calls volume (Minutes)



3.3 Fixed lines revenues

Table 4 shows the fixed lines revenues during the year 2007.

Table 4: Fixed lines revenues

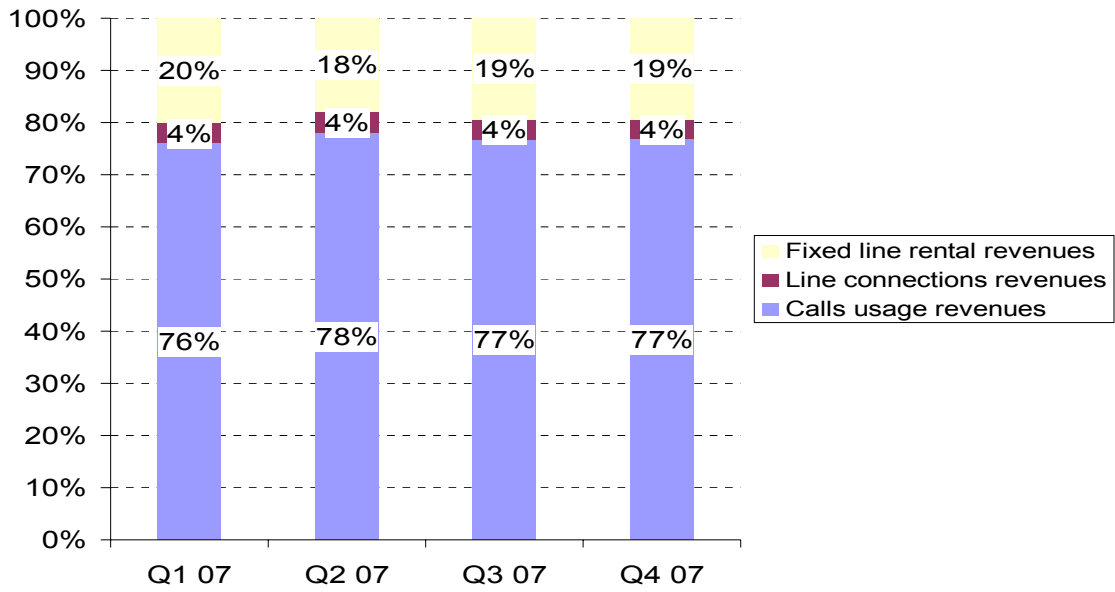
(in BD millions)	Q1 07	Q2 07	Q3 07	Q4 07
Fixed line services revenues ¹⁵	4.1	4.3	4.5	4.4

3.3.1 Proportion of fixed line services revenues

As shown in Figure 7, fixed lines call usage revenues represented 77% of the total fixed line revenues in Q4 2007.

¹⁵ Fixed line revenues include: calls usage, line connections and line rental revenues.

Figure 7: Proportion of fixed revenues

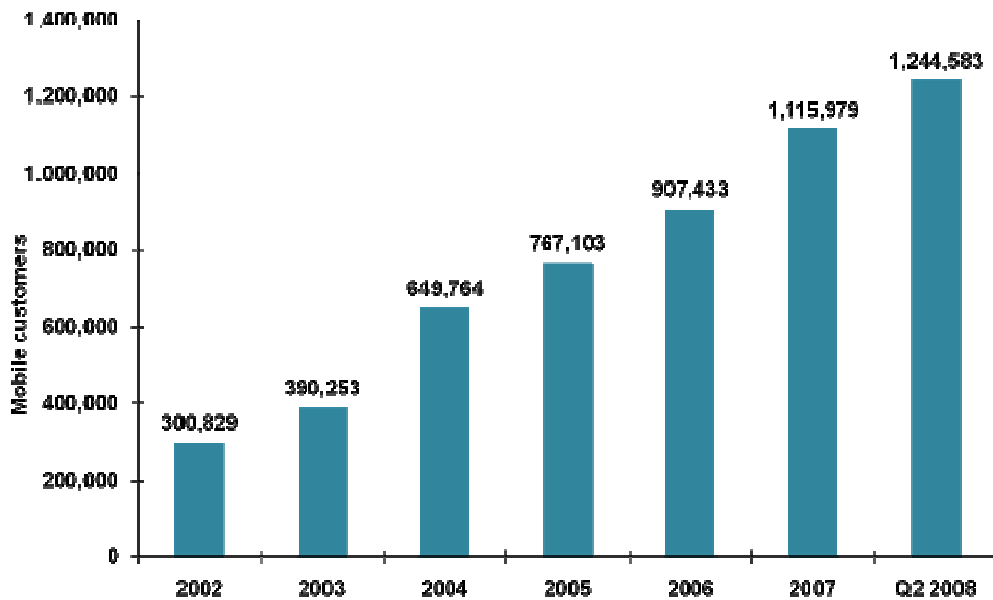


4 Mobile services

4.1 Mobile subscribers

The number of mobile subscribers has increased steadily since 2005. At the end of Q2 2008 there were over 1.24 million mobile subscribers in the Kingdom of Bahrain. This includes both active prepaid and postpaid mobile subscribers.¹⁶

Figure 8: Mobile subscribers in Kingdom of Bahrain

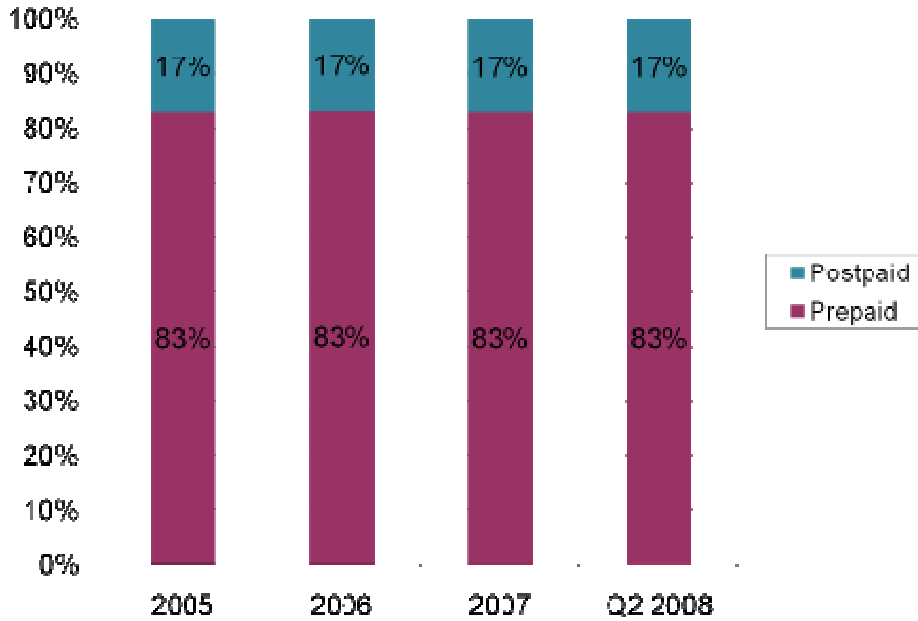


4.1.1 Proportion of prepaid and postpaid subscribers

The mobile market in Bahrain is predominantly prepaid. As indicated in Figure 9, prepaid subscribers represented over 80% of mobile subscribers at the end of Q2 2008.

¹⁶ As per the ITU definition, an active prepaid mobile subscriber is defined as a subscriber who has made a billable action (i.e. receiving or making a call or SMS) within the preceding 3 months.

Figure 9: Proportion of prepaid and postpaid subscribers



4.2 Mobile outgoing minutes

Most of the mobile traffic originates from prepaid subscribers (see table below).

Table 5: Mobile outgoing minutes

Minutes in million		Q1 07	Q2 07	Q3 07	Q4 07
National outgoing minutes	Prepaid	212	224	213	252
	Postpaid	142	156	178	194
International outgoing minutes	IDD	35	36	47	75
	PPCC	n/a	n/a	82	88
Total				520	609

4.2.1 Roaming traffic

Table 6 shows the inbound roaming traffic for Batelco and Zain.

Table 6: Roaming traffic

Roamers	Roaming traffic (in million)	
	Q3 07	Q4 07
Roaming traffic (outbound roamers) ¹⁷	11.6	9.2
Roaming traffic (inbound roamers) ¹⁸	15.6	17.2

¹⁷ Roaming traffic: Total number of roaming minutes made by own mobile subscribers to make and receive calls when outside the country (outside home network), e.g., when traveling abroad.

¹⁸ Total number of minutes made by visiting (foreign) subscribers when making and receiving calls within a country.

4.3 Mobile services revenues

In Q4 2007, revenues from prepaid represented over 57% of the total mobile revenues.

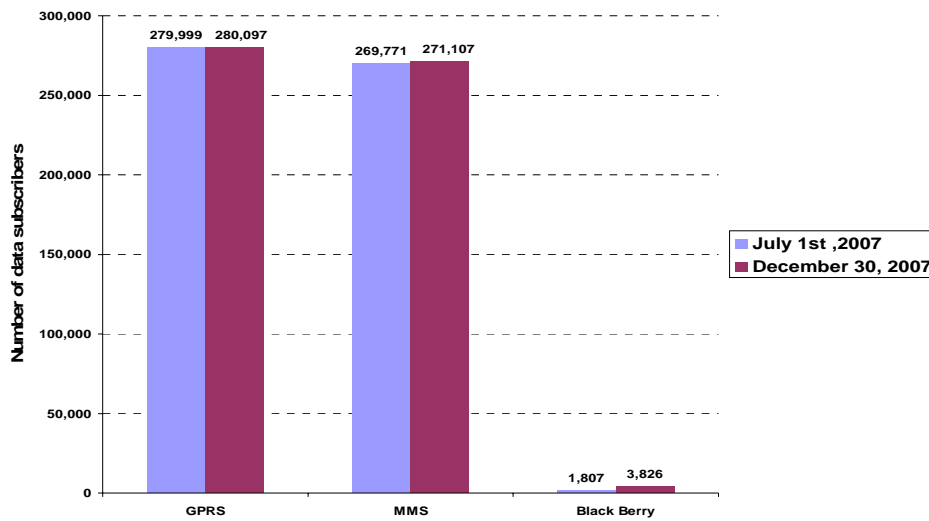
Table 7: Mobile revenues

(in BD millions)	Q1 07	Q2 07	Q3 07	Q4 07
Postpaid	14.8	16.1	14	13.9
Prepaid	15.9	16.1	15.2	18.7
Total	30.7	32.2	29.2	32.6

4.4 Mobile data subscribers

As can be seen from the figure below, there are a large number of subscribers to mobile data services. Black Berry subscribers grew by 111%.

Figure 10: Mobile data subscribers



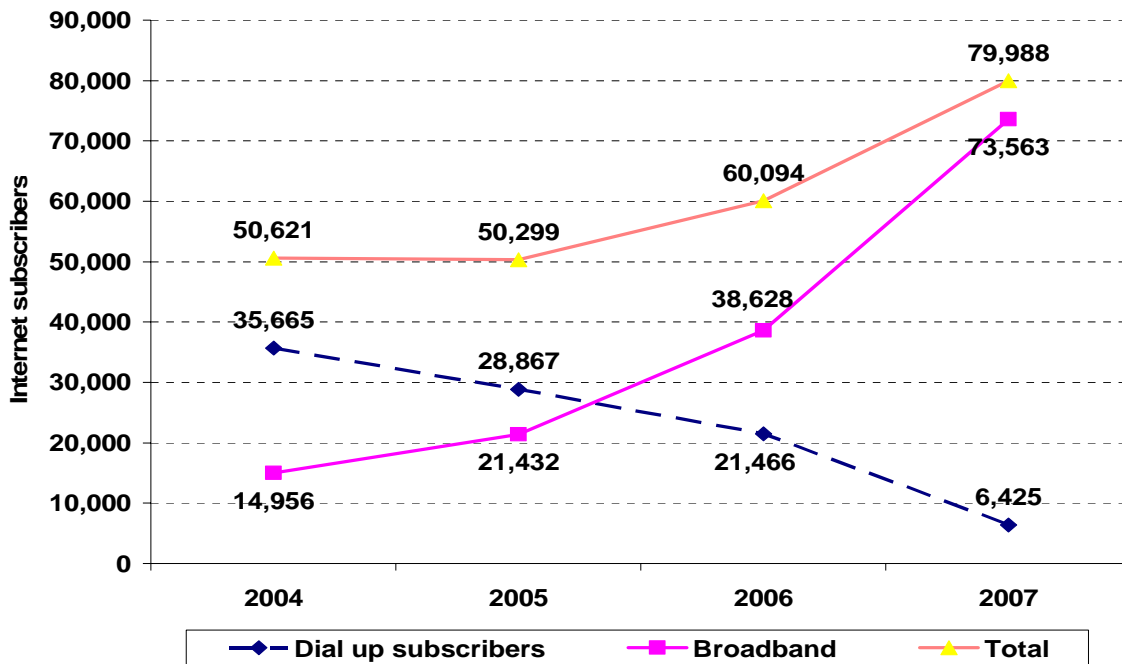
5 Internet services

At the end of December 2007 ten operators provided internet services. They offered four types of services: dial-up, wired broadband, wireless broadband and mobile broadband.

5.1 Internet subscribers

At the end of 2007 there were about 80,000 internet subscribers (Figure 11), of which 92% were broadband subscribers and 8% were dial-up subscribers. The number of broadband subscribers almost doubled between 2006 and 2007. This explosion of subscribers has more than compensated for the decline in dial-up subscribers.

Figure 11: Internet subscribers



5.1.1 Residential subscribers

At the end of 2007 there were 71,761 residential subscribers, of which 3,752 were dial-up subscribers, 62,699 were fixed broadband subscribers and 5,310 were mobile broadband subscribers. The growth of residential internet subscribers has accelerated in the last year (see Figure 12).

Figure 12: Residential fixed internet subscribers

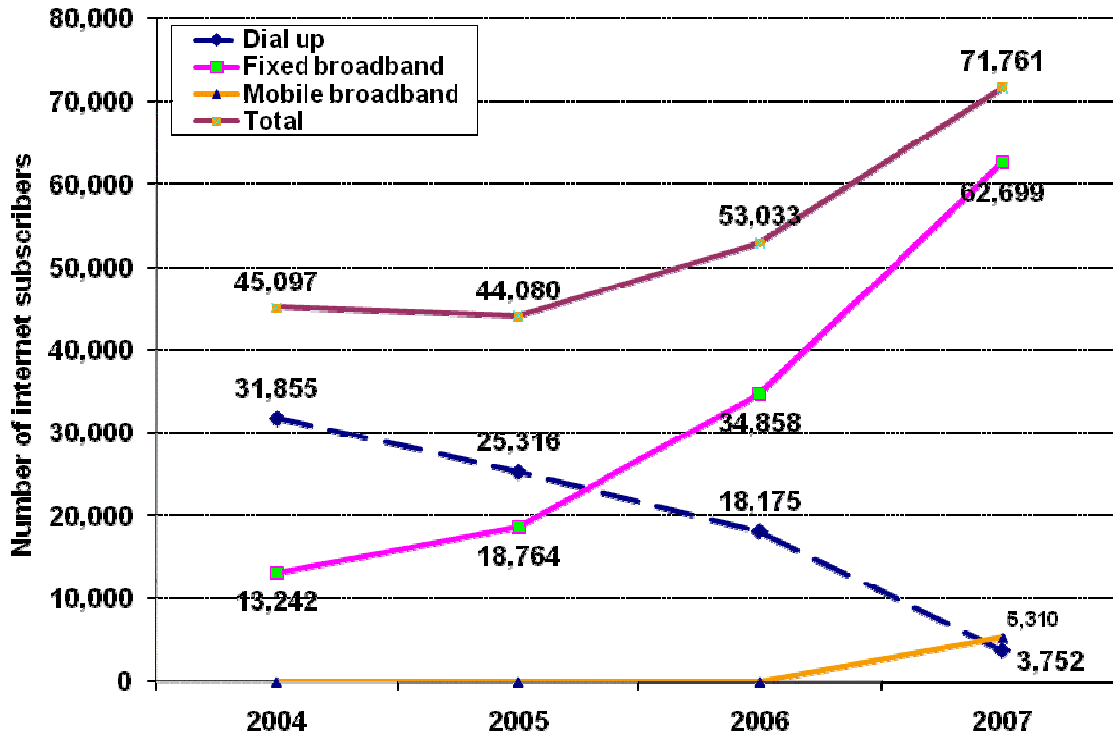


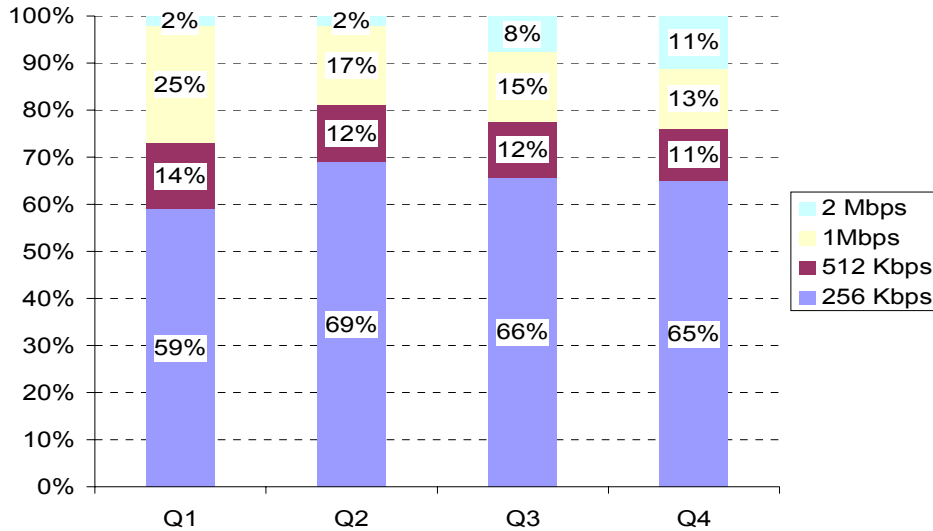
Table 8: Residential internet subscribers

Residential	Q4 06	Q1 07	Q3 07	Q3 07	Q4 07	Yearly growth Q4 07 - Q4 06
Dial-up	18,175	6,116	5,180	4,182	3,752	-79%
Fixed broadband	34,858	49,174	54,056	58,018	62,699	80%
Mobile broadband	0	0	3,870	3,577	5,310	
Total	53,033	55,290	63,106	65,777	71,761	35%

5.1.1.1 Proportion of residential broadband subscribers by download speed

Most broadband subscribers are still on low speed packages: about 65% of all residential broadband subscribers are on packages which have a maximum speed of 256 Kbps. An encouraging development is the increasing proportion of 2Mbps access, which grew from 2% in Q1 2007 to 11% in Q4 2007.

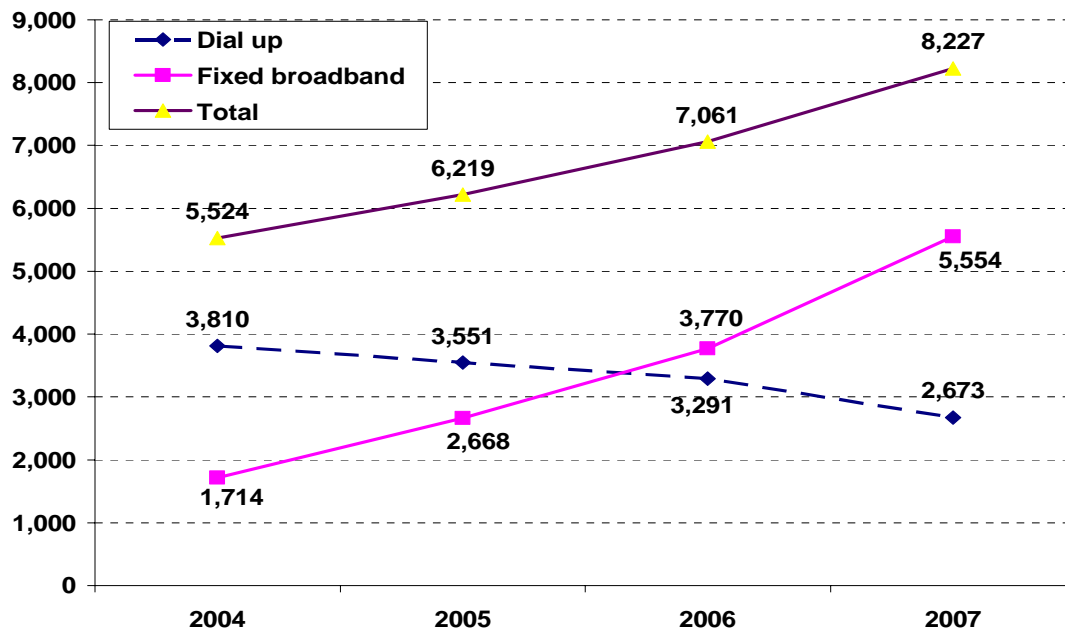
Figure 13: Proportion of residential broadband subscribers by access speed



5.1.2 Business subscribers

At the end of 2007 there were 8,227 business subscribers, of which 2,673 were on dial-up and 5,554 on fixed broadband. The proportion of business broadband subscribers grew from 53% in 2006 to 67% in 2007.

Figure 14: Business internet subscribers



The growth in business subscribers has been less strong than in the residential market.

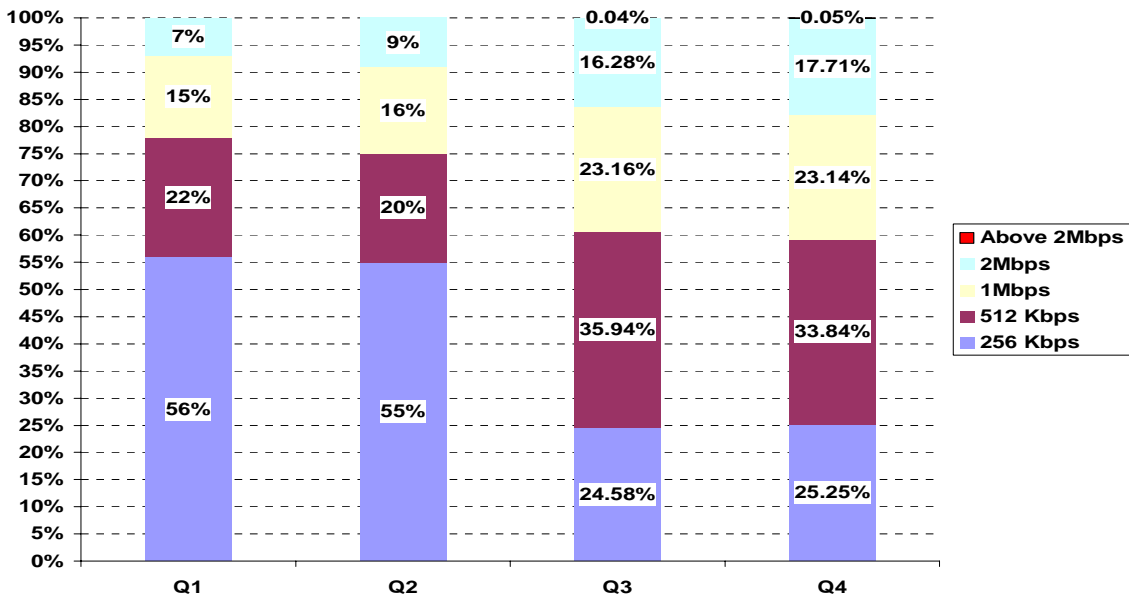
Table 9: Business broadband subscribers

Business	Q4 06	Q1 07	Q3 07	Q3 07	Q4 07	Yearly growth Q4 07 - Q4 06
Dial-up	3,291	3,240	2,991	2,770	2,673	-19%
Fixed broadband	3,770	4,580	4,808	5,076	5,554	47%
Total	7,061	7,820	7,799	7,846	8,227	17%

5.1.2.1 Proportion of business broadband subscribers by access speed

The majority of business broadband subscribers are on entry level broadband packages, i.e. packages which have a maximum speed of 256 and 512 Kbps. Figure 15 shows that the proportion of 256 Kbps dropped from 55% in July 2007 to 25% in December 2007 while the proportion of 512 Kbps grew from 20% in July 2007 to 34% in December 2007.

Figure 15: Proportion of business broadband subscribers by access speed



5.2 Internet revenues

As shown in Table 10 the total internet revenues increased by 13% between Q4 2006 and Q4 2007.

Table 10: Internet revenues

Revenues (in million)	Q4 06	Q1 07	Q2 07	Q3 07	Q4 07	Yearly Growth Q4 07 – Q4 06
Total	4.8	5.9	6.2	5.3	5.4	13%

6 International calls services

The international calls market includes international calls originated from international direct dial (fixed lines and mobile (IDD)), Carrier Pre-Selection (CPS) services, and prepaid calling cards (PPCC). There are currently 15 operators providing international calling services using one or more of these methods.

6.1 International outgoing minutes

International traffic is still growing rapidly. Between Q4 2006 and Q4 2007, international traffic grew by 74%.

Figure 16: Growth in international calls traffic

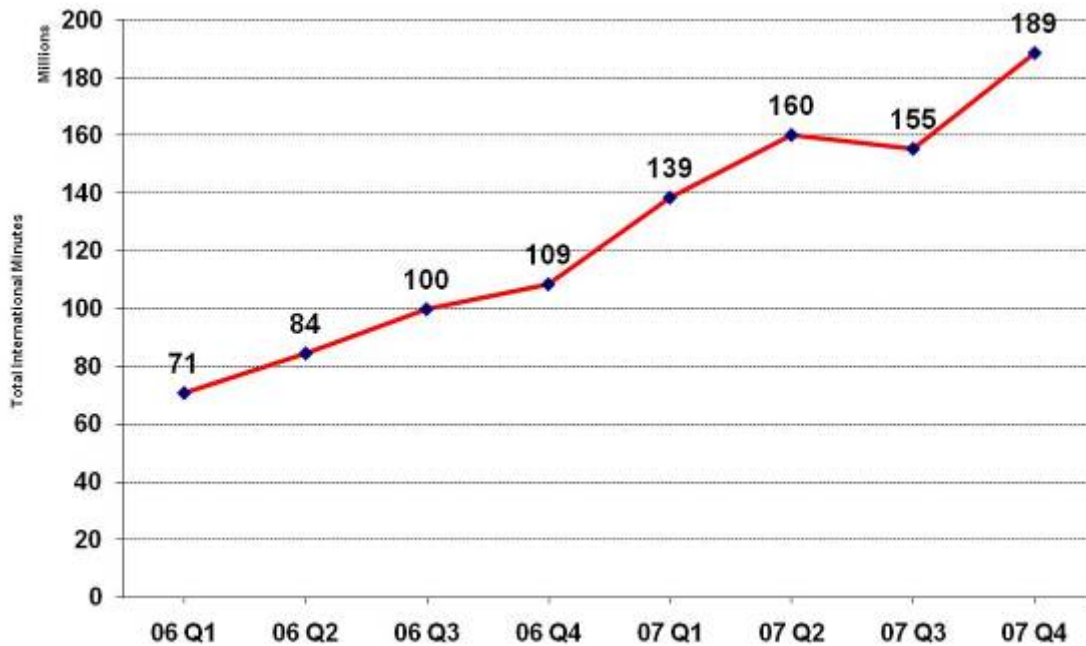


Table 11 shows that traffic to South Asian countries is the fastest growing (+140%), followed by traffic to Zone 3 countries.

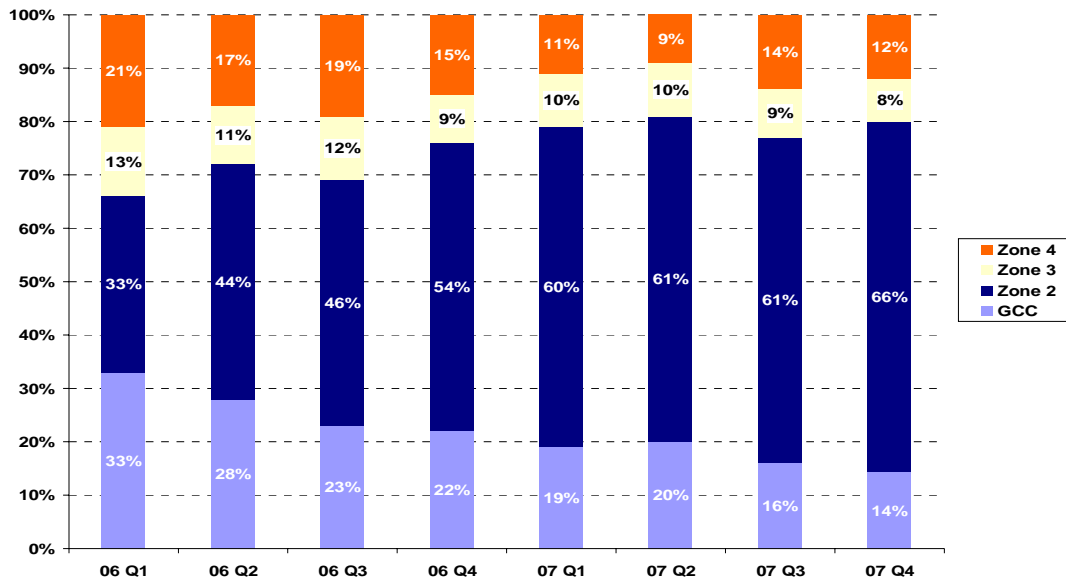
Table 11: International outgoing minutes

Destination ¹⁹	Minutes (in millions)			Year-on-Year growth 2007 –2006
	2005	2006	2007	
GCC	70	93	109	17%
Zone 2	95	167	400	140%
Zone 3	30	40	59	46%
Zone 4	45	63	74	17%
Total	240	363	642	77%

6.1.1 International calls traffic distribution

About 66% of international calls are made to South Asian countries (Zone 2) (Figure 17). Calls to Zone 3 and Zone 4 represent about 8% and 12% respectively, whilst calls to GCC countries represent about 14% of the total volume. The proportion of calls to South Asian countries doubled between Q1 2006 and Q4 2007 and currently stands at 66%.

Figure 17: International calls traffic distribution



¹⁹ GCC countries: Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

Zone 2: Calls to South Asian countries (Bangladesh, India, Pakistan, the Philippines and Sri Lanka).

Zone 3: Calls to other major destinations (Australia, Canada, France, Germany, Greece, Italy, Iran, New Zealand, Thailand, UK, USA and Yemen).

Zone 4: Calls to all other international destinations.

6.1.2 Distribution of international minutes by access type

Figure 18 shows that about 49% of the international calls minutes were originated from fixed using international PPCCs, followed by direct dial from fixed and mobile (46%) as of Q4 2007.

Figure 18 Distribution of international minutes originated from fixed by access type

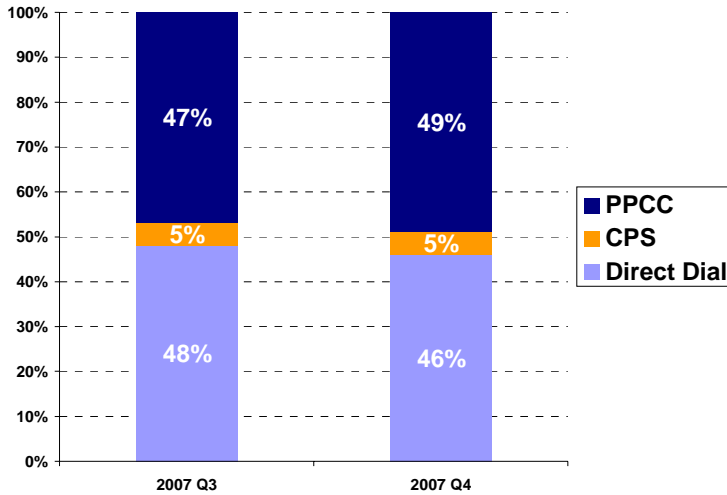
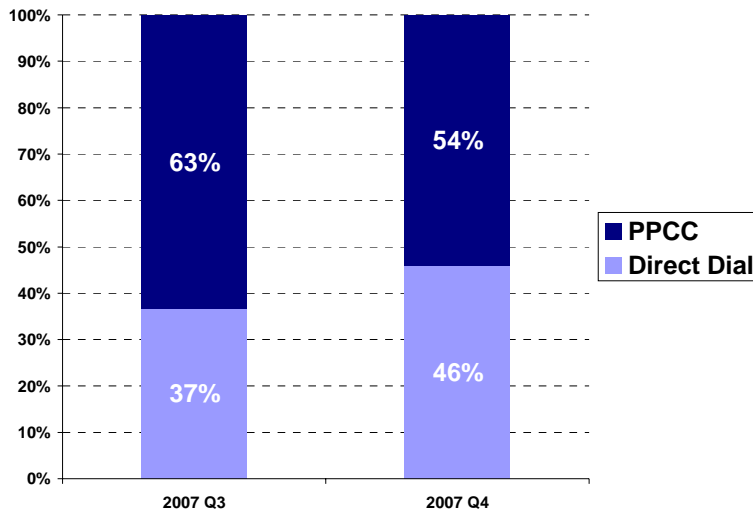


Figure 19 shows that about 54% of the international calls minutes were originated from mobile using international direct dial, followed by PPCCs from fixed and mobile (46%) as of Q4 2007.

Figure 19 Distribution of minutes originated from mobile by access type



6.2 International calls revenues

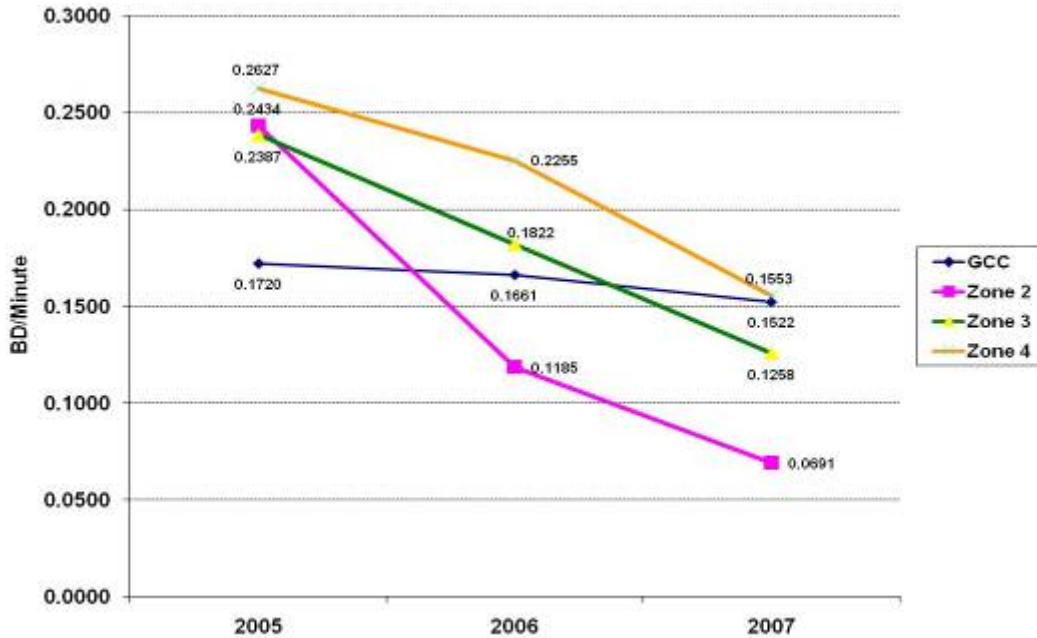
Table 12 shows historical international calls revenues and the year-on-year growth in international call revenues between 2006 and 2007. The table shows that revenues originated from calls to Zone 2 have the highest growth (40%).

Table 12: International calls revenues

Destination ²⁰	Revenues (BD in millions)			Year-on-Year growth 2007 –2006
	2005	2006	2007	
GCC	12.1	15.4	16.6	8%
Zone 2	23.2	19.7	27.7	40%
Zone 3	7.2	7.3	7.4	1%
Zone 4	11.9	14.3	11.5	-19%
Total	54.4	56.7	63.2	11%

Figure 20 below shows the average revenue per minute for each zone. The figure shows that the average revenue per minute for zone 2 is the smallest as of 2007 and it has declined from about 240 fils in 2005 to about 70 fils in 2007.

Figure 20: Average revenue per minute by zone



²⁰ GCC countries: Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

Zone 2: Calls to South Asian countries (Bangladesh, India, Pakistan, the Philippines and Sri Lanka).

Zone 3: Calls to other major destinations (Australia, Canada, France, Germany, Greece, Italy, Iran, New Zealand, Thailand, UK, USA and Yemen).

Zone 4: Calls to all other international destinations.

6.2.1 Distribution of revenues from international calls by access type

Figure 21 shows that revenues produced from fixed lines by direct dial calls represent about 69% of total international revenue while revenues produced from prepaid calling cards represent about 26%.

Figure 21: Distribution of international revenues originated from fixed by access type

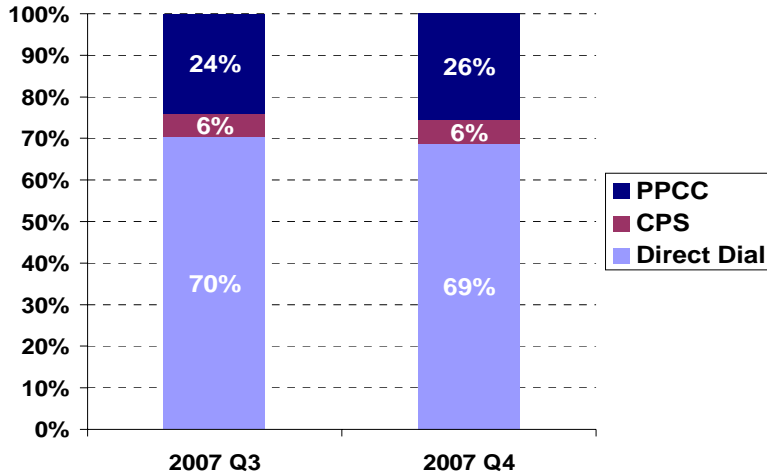
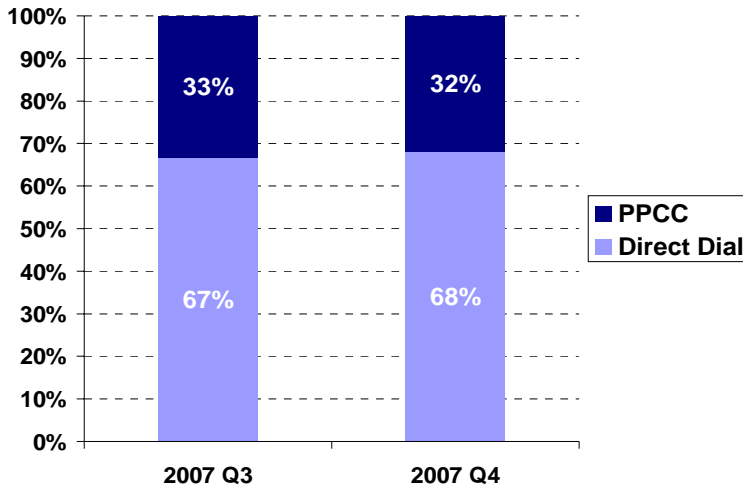


Figure 22 shows that revenues produced from mobile by direct dial calls represent 68% of total international revenue while revenues produced from prepaid calling cards represent 32%.

Figure 22: Distribution of international revenues originated from mobile by access type



7 Leased lines and data services

This section of the report looks at domestic and international leased lines as well as the other data services.

7.1 Domestic leased lines

There are six operators that offer domestic leased lines services: Batelco, 2Connect, Etisalcom, Kalaam, Lightspeed and Nuetel. Leased lines provided by OLOs are mostly based on Batelco's wholesale products. An interesting trend discernible from Table 13 is the shift towards higher speed leased lines.

Table 13: Number of domestic leased lines

Leased line speed	Q1 07	Q2 07	Q3 07	Q4 07
$x < 64$ kbps and less	281	273	270	227
$64 \text{ kbps} \leq x < 512$ kbps	495	499	501	508
$512 \text{ kbps} \leq x < 1024$ kbps	88	97	118	140
$1024 \text{ kbps} \leq x < 2048$ kbps	63	70	95	104
$2 \text{ Mbps} \leq x < 45$ Mbps	91	97	121	124
$45 \text{ Mbps} \leq x < 155$ Mbps	0	0	2	2
Total	1018	1036	1107	1105

7.2 International leased lines

International leased line half circuits are currently offered to three international zones:

- Zone 1: GCC countries;
- Zone 2: rest of the Middle East, Turkey, Cyprus, Greece, India, Pakistan, South Africa; and
- Zone 3: Continental USA, Canada, Europe, South East Asia.

In addition to Batelco, there are two other licensed operators that offer international leased lines services, Etisalcom and 2Connect.

The bulk of circuits are to Zone 1 countries.

Table 14: International leased line circuits

Destinations	Speed	Jun-07	Dec-07
Zone 1	$x < 1$ Mbps	124	133
	$1\text{Mbps} \leq x < 2$ Mbps	6	6
	$2\text{Mbps} \leq x < 45$ Mbps	33	44
	$45\text{Mbps} \leq x < 155$ Mbps	6	7
	$155\text{Mbps} \leq x < 622$ Mbps	2	
	$x \geq 622$ Mbps	1	3
	Total	172	193
Zone 2	$x < 1$ Mbps	14	15
	$1\text{Mbps} \leq x < 2$ Mbps	1	1
	$45\text{Mbps} \leq x < 155$ Mbps		1
	Total	15	17
Zone 3	$x < 1$ Mbps	20	20
	$1\text{Mbps} \leq x < 2$ Mbps	1	1
	$2\text{Mbps} \leq x < 45$ Mbps	11	12
	$45\text{Mbps} \leq x < 155$ Mbps	2	3
	$155\text{Mbps} \leq x < 622$ Mbps	1	
	$x \geq 622$ Mbps	1	2
	Total	36	38
	Grand total	223	248

7.3 Data services

Table 15 shows the number of circuits for other data services in 2007. As can be seen from the Table, LAN Connection growth has accelerated since Q2 2007.

Table 15: Number of circuits for other data services

Data services	Q1 07	Q2 07	Q3 07	Q4 07
LAN Connect service	529	530	1012	1038
MPLS based IP-VPN	174	199	237	264
Global Managed Private Line	6	6	13	18
Global frame relay	20	13	33	29
Global ATM	5	5	NA	NA
Global IP-VPN	7	9	17	17
Leased line over Ethernet	7	6	NA	NA
ADSL over Ethernet	5	5	NA	NA
Total	753	773	1312	1366

7.4 Leased lines and data services revenues

Table 16 shows the revenues for 2007 by quarter for domestic and international leased lines and other data services.

Table 16: Leased lines and data services revenues

Revenues (in BD 000's)	2007 Q1	2007 Q2	2007 Q3	2007 Q4
Domestic leased lines	773	817	1,124	1,139
International leased lines	3,350	3,436	4,605	3,030
Other data services	859	960	1,689	1,941
Total	4,983	5,214	7,418	6,110

8 International Benchmarking

This section of the report puts Bahrain’s relative performance into perspective. It provides benchmarks of penetration rates and prices of certain services. The sample of countries considered includes Arab countries, European countries and OECD countries.

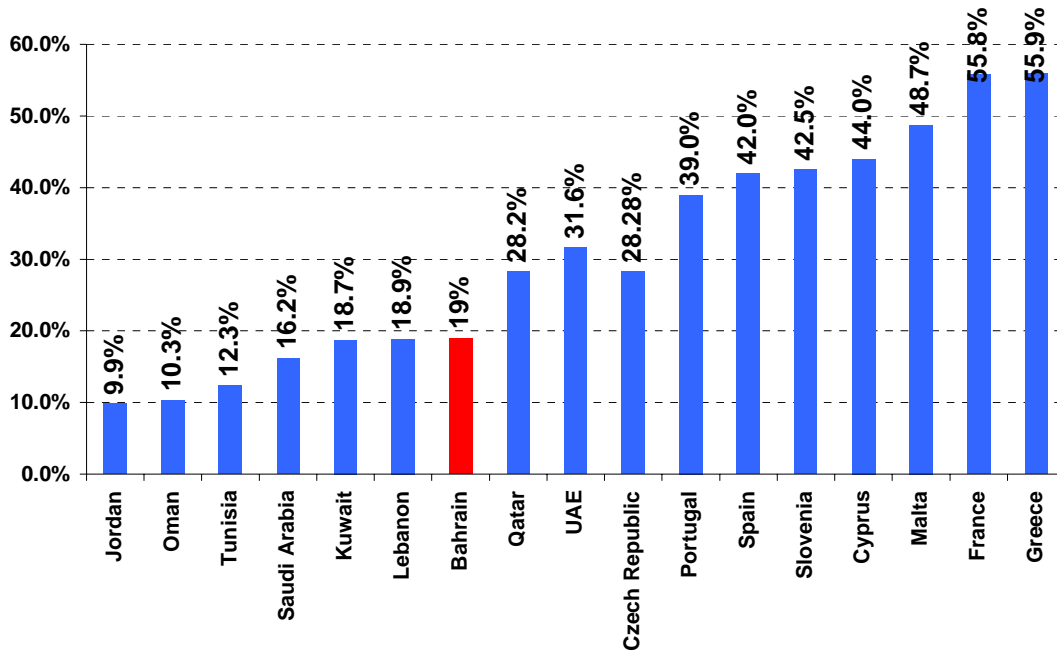
The analysis provides benchmarks on the penetration of telecommunications services and the prices of certain key services. The countries included in the benchmarking are European countries with similar GDPs per capita, GCC members and other Arab countries. The sources of the following figures are the ITU and TRA analysis.

8.1 Benchmarking of penetration rates

8.1.1 Fixed line penetration

At the end of 2007 the fixed line penetration in Bahrain was 19 per cent. Compared to the GCC and other Arab countries, Bahrain has a high fixed line penetration. Compared to European countries, penetration in Bahrain and in Arab countries is lower (Figure 23).

Figure 23: Fixed lines penetration



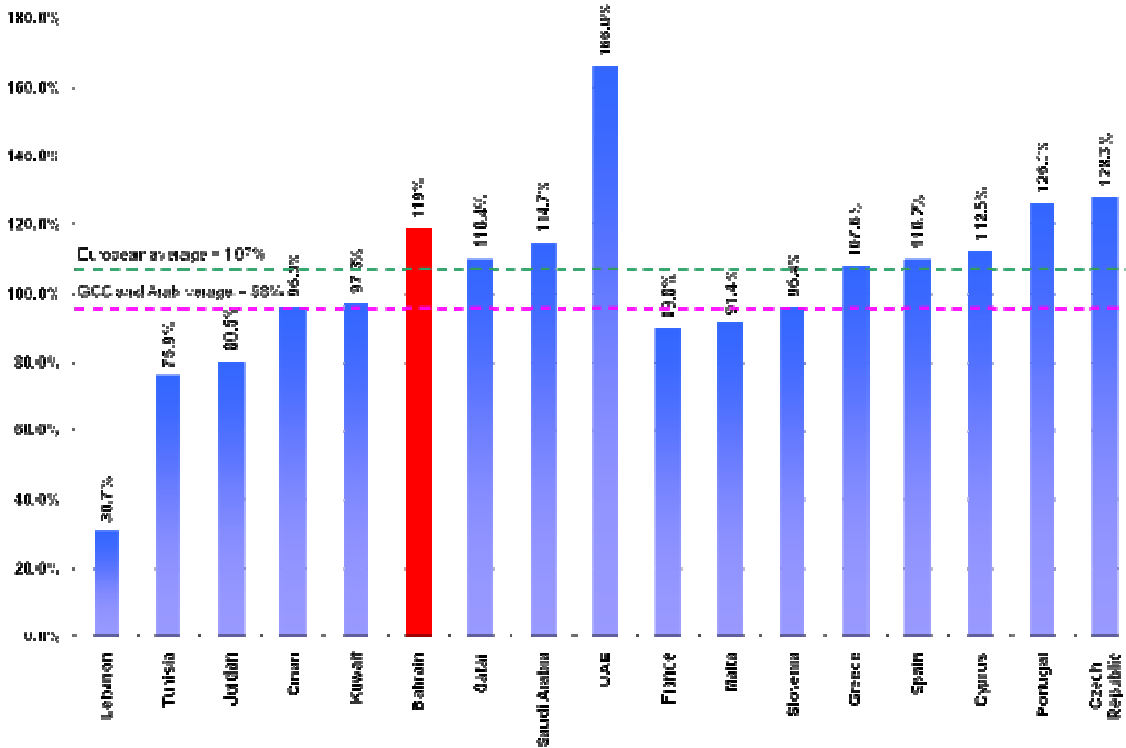
Source: ITU data 2007 and TRA analysis

8.1.2 Mobile penetration

Figure 24 shows mobile penetration in each country, measured as the number of subscribers per 100 inhabitants.

In December 2007 mobile penetration in Bahrain was 107%. As the following figure shows, Bahrain has one of the highest mobile penetrations in the GCC and Arab countries and compares well with the European countries considered.

Figure 24: Mobile penetration

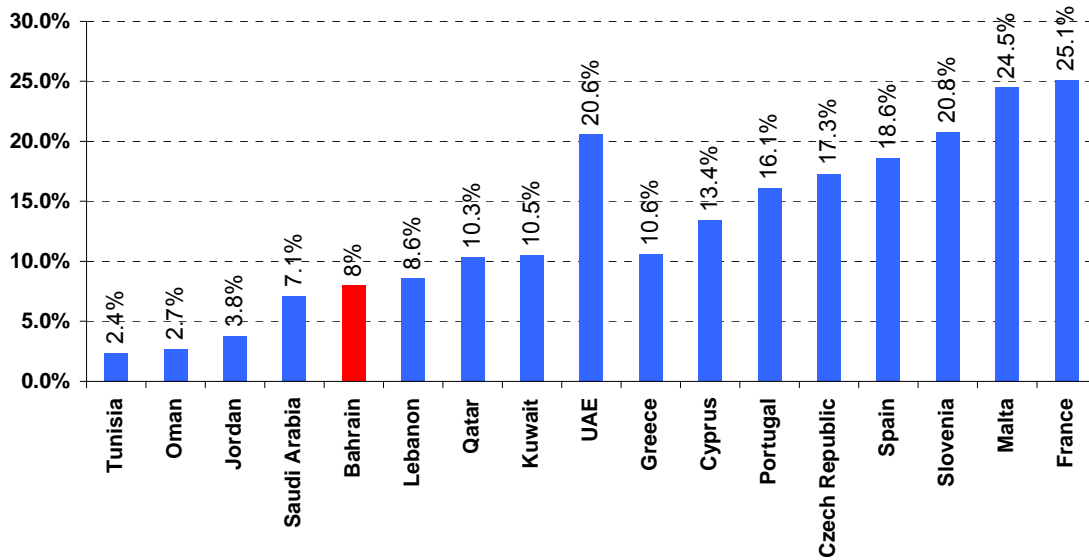


Source: ITU data 2007 and TRA analysis

8.1.3 Internet penetration

Bahrain’s internet penetration was 8% in 2007. In spite of the growth in the number of internet subscribers, Bahrain’s internet penetration is low compared to European countries.

Figure 25: Internet penetration

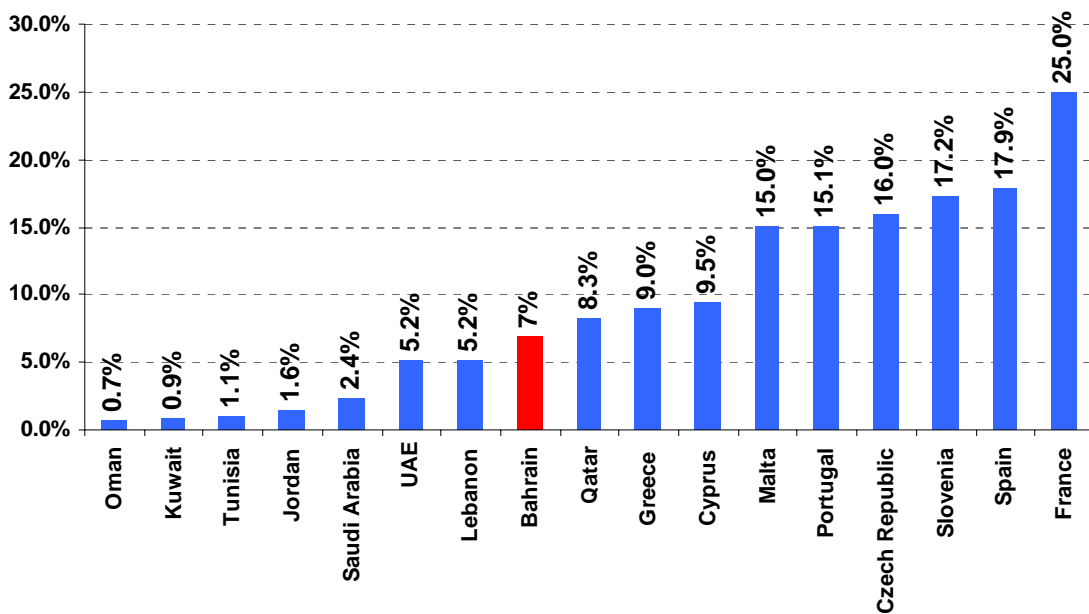


Source: ITU data 2007 and TRA analysis

8.1.4 Broadband penetration

Bahrain’s rank in broadband penetration, which stands at 7%, is better than Bahrain’s rank in internet penetration, as 92% of internet subscribers are broadband subscribers.

Figure 26: Broadband penetration



Source: ITU data 2007 and TRA analysis

8.2 Telecommunications price benchmarking for Arab countries

The prices of telecommunications services are important to customers. Accordingly, TRA commissioned Teligen to conduct a price benchmarking study. The study covers Fixed Voice (PSTN), Mobile Telephony, Leased Lines and Broadband ADSL.

The full report of the benchmarking study is available on TRA's website (www.tra.org.bh).

8.2.1 Fixed voice (PSTN) basket

Based on the average ranking across all five fixed (PSTN) baskets, residential and business, Bahrain is one of the cheapest countries.

Figure 27: Medium usage basket results

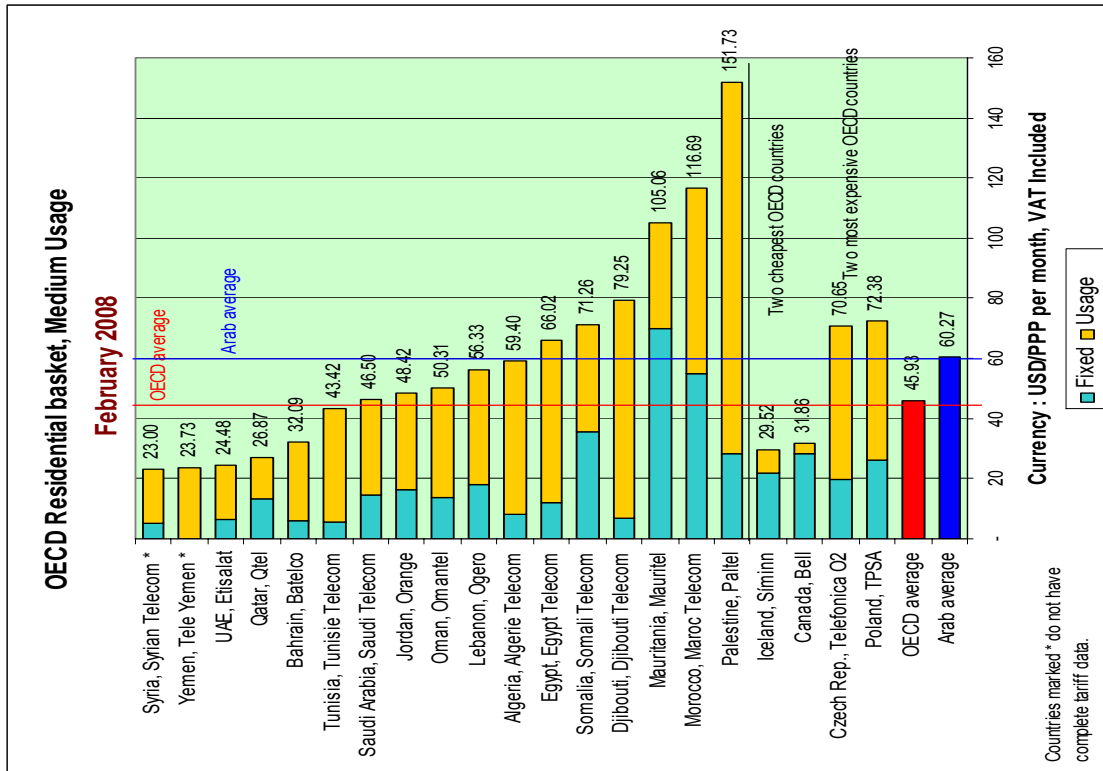
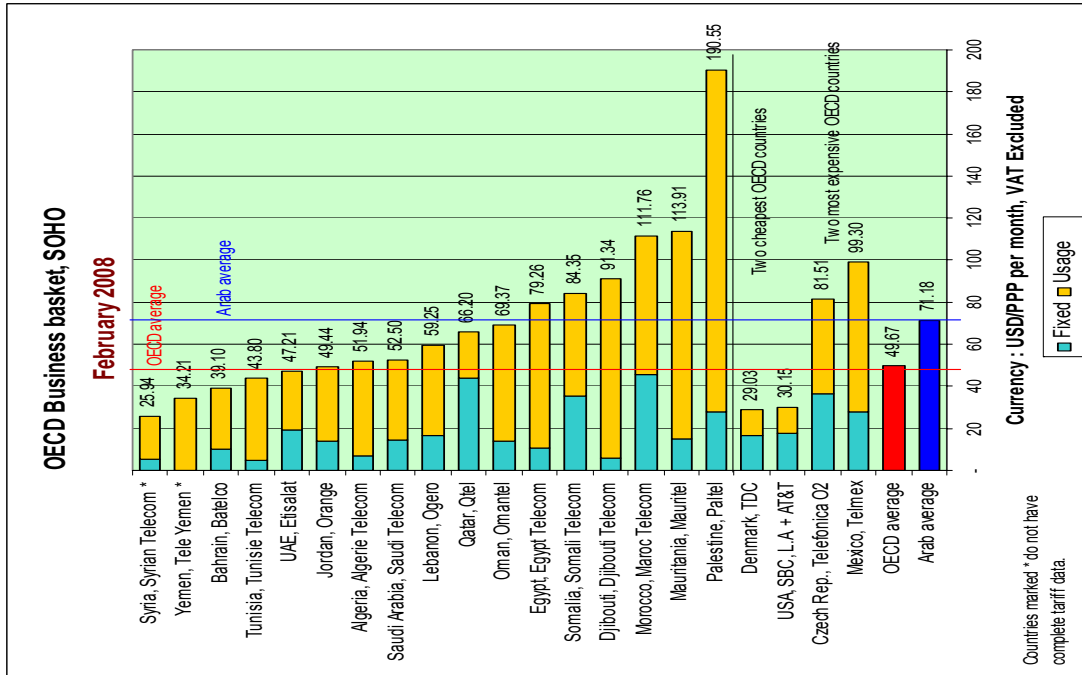


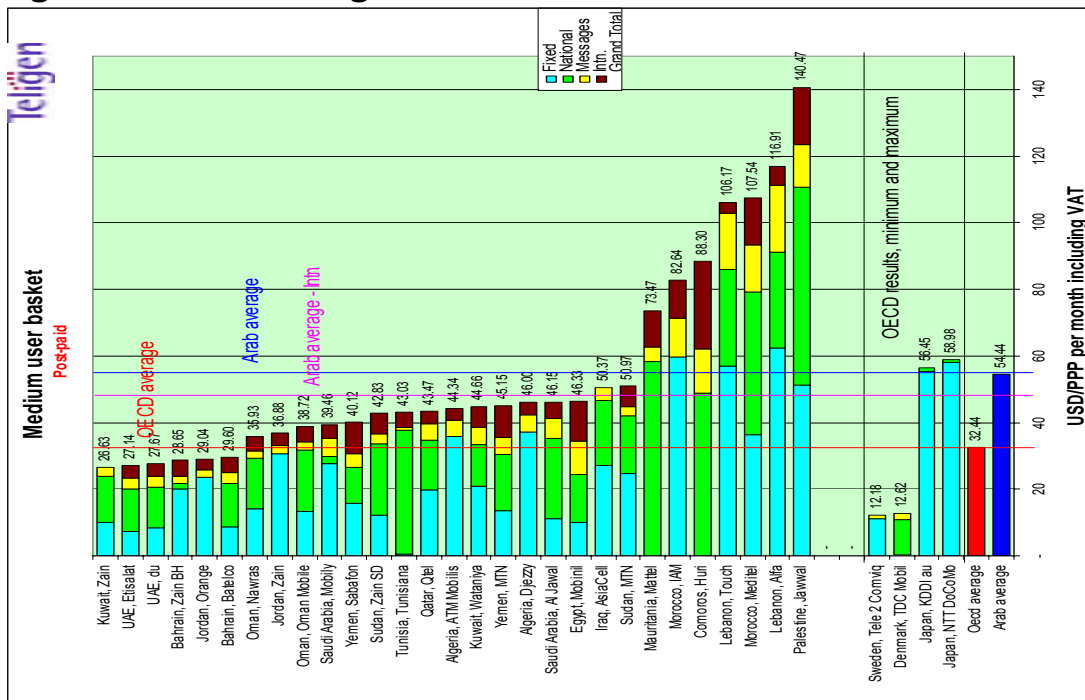
Figure 28: SOHO basket results



8.2.2 Mobile basket

The study shows that Bahrain’s mobile operators are doing well compared to the Arab countries and the OECD average.

Figure 29: Medium usage mobile basket



8.2.3 Broadband basket

The benchmarking study observed that for speeds above 1 Mb/s the prices are generally higher than what is found in Europe.

Figure 30: Residential low speed broadband (below 1 Mb/s)

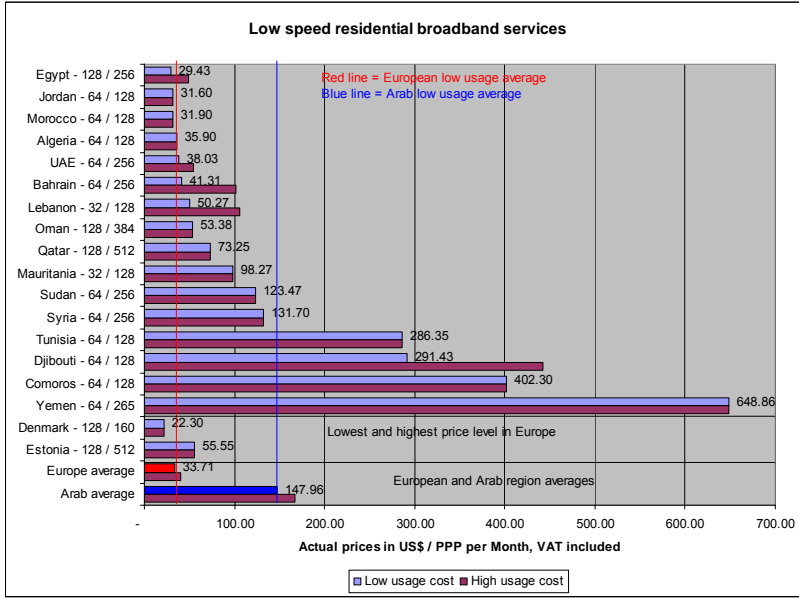


Figure 31: Residential high speed broadband (1 – 4 Mb/s)

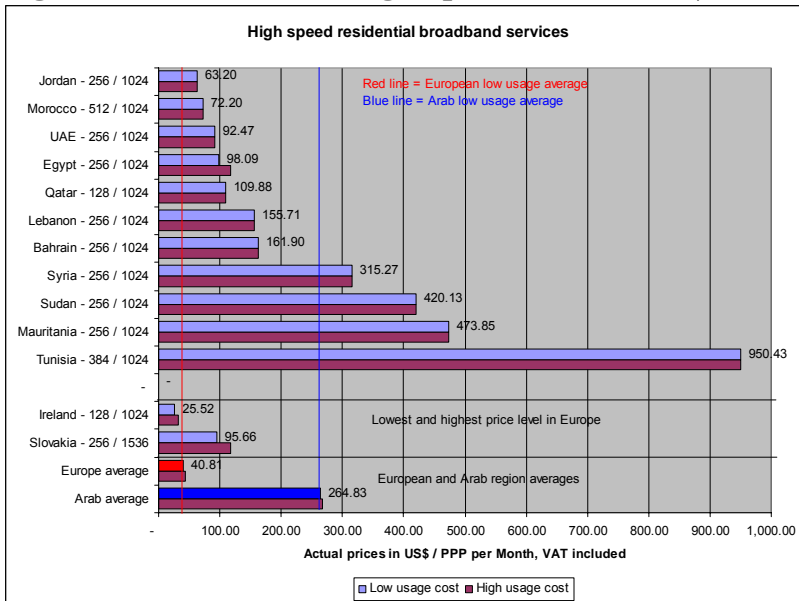
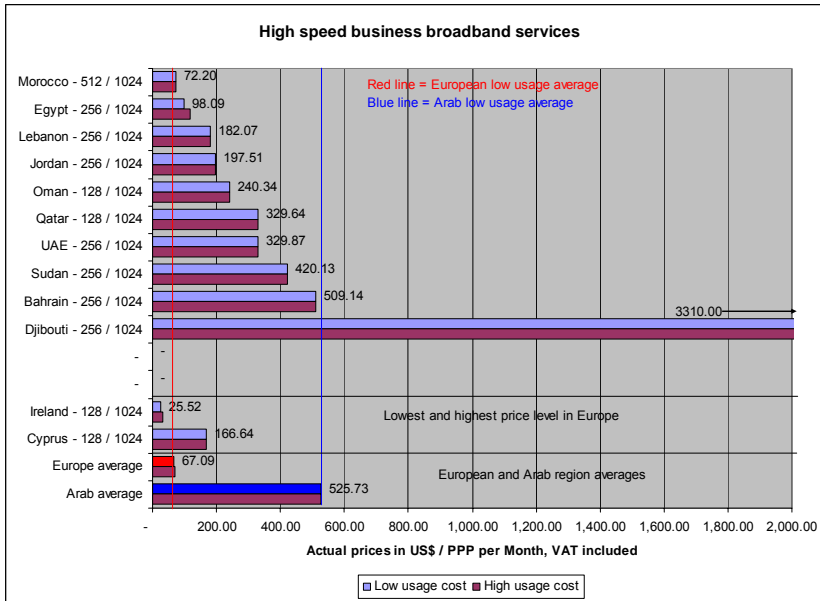


Figure 32: Business high speed broadband (1 – 4 Mb/s)



List of Acronyms

ADSL	Asymmetric Digital Subscriber Line
ATM	Asynchronous Transfer Mode
BD	Bahraini Dinar
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
ITU	International Telecommunication Union
LAN	Local Area Network
Mb	Megabit
Mbps	Megabit per second
MMS	Multi Media Services
MPLS	Multiprotocol Label Switching
OECD	Organization for Economic Co-operation and Development
OLO	Other licensed operators
PPP	Purchasing Power Parity
PSTN	Public Switched Telephone Network
SME	Small and Medium-sized Enterprise
SMS	Short Message Service
SOHO	Small Office / Home Office
TRA	Telecommunications Regulatory Authority
USD	United States Dollar
VAT	Value Added Tax

ITU indicators

Main (fixed) telephone lines in operation (ITU code 112)	A main line is a (fixed) telephone line connecting the subscriber's terminal equipment to the public switched network and which has a dedicated port in the telephone exchange equipment. This term is synonymous with the term main station or Direct Exchange Line (DEL) that are commonly used in telecommunication documents. It may not be the same as an access line or a subscriber. The number of ISDN channels should be included. Fixed wireless subscribers should also be included.
Prepaid mobile subscribers (based on ITU code 271p)	Total number of mobile cellular subscribers using prepaid cards. These are subscribers that rather than paying a fixed monthly subscription fee, choose to purchase blocks of usage time. Only active prepaid subscribers that have used the system within the last 3 months should be included.
Number of dial-up Internet subscribers (based on ITU code 4213d)	Number of Dial-up Internet subscribers. Dial-up is a connection to the Internet via a modem and telephone line, which requires that the modem dial a phone number when Internet access is needed. Only active subscribers that have used the system within the last 3 months should be included.
Number of fixed broadband Internet subscribers (ITU code 4213tfb)	Total broadband Internet subscribers refers to those subscribers who pay for high-speed access to the public Internet (a TCP/IP connection), at speeds equal to, or greater than, 256 kbit/s, in one or both directions. This total is measured irrespective of the method of payment. It excludes subscribers with access to data communications (including the Internet) via mobile cellular networks.
Other fixed broadband Internet subscribers (ITU)	Internet subscribers using other fixed broadband technologies to access the Internet (other than DSL, cable modem and leased

code 4213ob)	lines). This includes technologies such as satellite broadband Internet, Fibre-to-the-home Internet access, Ethernet LANs, fixed wireless access, Wireless Local Area Network, WiMax etc. Speeds should be equal to, or greater than, 256 kbit/s, in one or both directions. It would exclude users of temporary broadband access (e.g., roaming between PWLAN hotspots), and those with Internet access via mobile cellular networks.
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