Telecommunications markets indicators in the Kingdom of Bahrain

December 2010

هيئة تنظيم الاتصالات
Telecommunications Regulatory Authority

Contents

Introduction

The collection, analysis and dissemination of accurate and timely market information significantly enhances the design of effective, proportionate and efficient market regulation.

The publication of this report is in accordance with article 54 of the Telecommunication Law of Bahrain.

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

TRA would like to thank licenced operators for their provision of information and looks forward to their continued collaboration in the future.

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This is the fourth Telecommunications Markets Indicators Report and it covers more recent data for a number of indicators. This report covers a large range of telecommunications services indicators, such as the number of subscribers, penetration rates, calls usage and telecommunications revenues.

[1] Note that Person is defined in the Telecommunications Law to mean any natural or artificial person or public authority.
[2] See TRA's position paper on its treatment of confidential and non-confidential information at http://www.tra.org.bh/en/pdf/Confidentiaity_Guidelines_Final.pdf

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TRA highlights during 2009

Licensing

- STC is awarded the third mobile licence.

Orders

- TRA issued order no 1 of 2009 to Batelco relating to its Charges of the Bitstream and Wholesale DSL Services.
- TRA issued Access Order no 1 of 2009 to Batelco relating to its Local Loop Unbundling, Bitstream and Wholesale DSL Services.
- TRA issued an order to Batelco relating to access to the Landing Station for the FALCON submarine cable and fines Batelco for failing to do so.

Determinations

- TRA issued a Dominance Determination on Wholesale Broadband Markets.
- TRA issued a Determination setting the cost of capital for Batelco's and Zain's regulated telecommunications services at 9.5%.

Regulations

- TRA issued its Lawful Access Regulation.
- TRA published a regulation on sharing of wireless network facilities.

Consultations

- TRA engaged a consultancy firm to develop a policy for universal service.
- TRA proposed a new framework for regulating the retail tariffs of operators with significant market power in line with its Strategic and Retail Market Review of 2008.
- TRA consulted on and finalised its Competition Guidelines.

Key market trends and observations

Overall

- 11.6 % growth in total telecommunications revenues between 2008 and 2009.
- 38% growth in the number of staff working in the telecommunications sector since liberalisation in 2003.

Fixed telephony

- By the end of Q3 2010, there were approximately 229,000 fixed lines in Bahrain.
- Fixed telephony traffic remained constant between 2008 and 2009.
- Monthly ARPU decreased by BD 1.1 due the decrease in international direct dial revenues, constant revenues for national calls and growth in the number of fixed lines.

Mobile

- At the end of Q3 2010 there were about 1.5 million mobile subscribers in Bahrain.
- The growth in the population and the drop in the number of mobile subscribers resulted in mobile penetration dropping from 130% in 2008 to 120% in 2009.
- the drop in the number of mobile subscribers in 2009 was due to prepaid SIM card registration and compliance by Batelco with the ITU active prepaid subscribers' definition.

International calls

- International traffic continued to growing rapidly. Between 2008 and 2009, international traffic grew by 55%.
- In 2009 about 72% of international calls (minutes) were made to South Asian countries (Zone 2).
- Revenues originating from calls to Zone 2 represented 48% of the total international calling revenues in 2009.

Internet

- At the end of Q3 2010 there were about 188,000 broadband subscribers.
- The number of broadband subscribers increased by 19% between 2009 and Q3 2010.
- 44% of broadband subscribers were fixed wireless subscribers in Q3 2010.
- Dial up service was phased out in February 2010.

Services offered by active operators

Operator Name	National Fixed	International Calls	Mobile	Internet	Leased line	Other data service[1]
2Connect	✓	✓		✓	✓	✓
Batelco	✓	✓	✓	✓	✓	✓
BT Solutions LTD					✓	✓
Business Communication Networks		✓				
Elephant Talk		✓				
Etisalcom	✓	✓		✓	✓	✓
Kalaam Telecom	✓	✓		✓	✓	
Kulacom Communications S.P.C.	✓	✓		✓		
Light Speed	✓	✓		✓	✓	
Mena Telecom	✓	✓		✓		
Northstar		✓		✓		
Nuetel Communications	✓	✓		✓	✓	
Orbit				✓		
Viacloud		✓				
Zain (Bahrain)	✓	✓	✓	✓		✓
Ascentech Telecom		✓				
EQUANT EGN BV						✓
Rawabi Telecommunications & Software	✓	✓		✓	✓	
Total	**10**	**15**	**2**	**12**	**8**	**6**

[1] For example, national frame relay service, international managed leased line services and international MPLS/IPVPN service.

Main telecommunications indicators

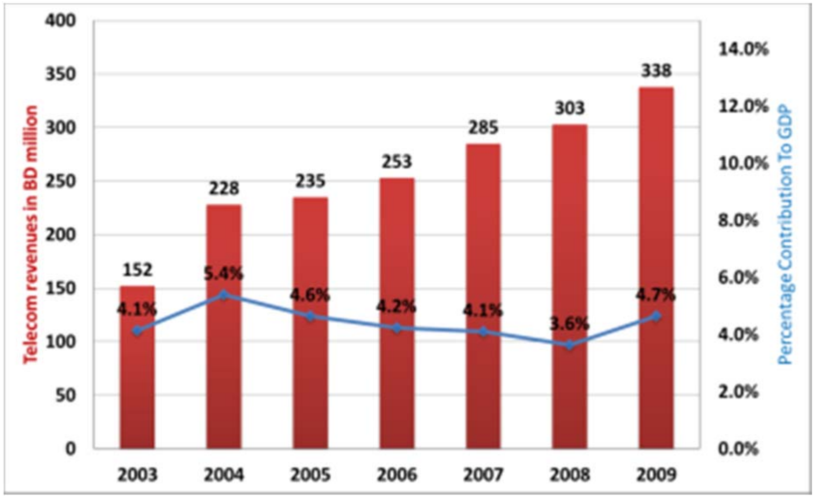
Indicator	2005	2006	2007	2008	2009	Compound Annual Growth Rate - CAGR
Population	888,824	960,425	1,039,297	1,106,509	1,169,853[1]	
Number of households	113,441	116,533	158,823	167,079	176,092[2]	
Fixed line services						
Number of fixed lines	193,520	194,196	203,541	220,386	237,621	5%
Fixed line penetration	22%	20%	20%	20%	20%	
Number of residential fixed lines	121,918	122,343	116,951	130,121	146,384	5%
Percentage of households which have a fixed line	n/a	n/a	74%	78%	83%	
Mobile services						
Prepaid subscribers	635,277	756,268	923,702	1,210,163	1,156,196	16%
Postpaid subscribers	131,826	151,165	192,277	230,619	245,778	17%
Total mobile subscribers	767,103	907,433	1,115,979	1,440,782	1,401,974	16%
Mobile penetration as a % of total population	86%	94%	107%	130%	120%	
Internet services						
Dial-up subscribers	28,867	21,466	6,425	4,508	3,480	-41%
Broadband subscribers[4]	21,432	38,628	73,563	109,994	158,335	65%
Total Internet subscribers	50,299	60,094	79,988	114,502	161,815	34%
Internet penetration	6%	6%	8%	10%	14%	23%
Broadband penetration	2%	4%	7%	10%	14%	61%
Number of residential fixed broadband subscribers	18,764	34,858	62,699	85,419	149,581	68%
Percentage of households that have fixed broadband	17%	30%	39%	51%	85%	

Notes:
1- The population head count is sourced from the Central Informatics Organization. 2009 population is based on TRA estimation.
2- The Central Informatics Organization has not yet revised the number of households; therefore TRA has extrapolated the number of households for the year 2007, 2008 and 2009 based on 2006 data for its own analysis.
3- The number of subscribers refers to the end of the year and the number of minutes represents the cumulative minutes during the year.
4- Number of broadband subscribers include mobile broadband subscribers and wireless broadband subscribers

Revenues in the Telecommunications Sector

- **11.6 % growth in revenues between 2008 and 2009.**
- **8.2% compound annual growth rate between 2004 and 2009.**
- **Mobile services revenues represent the majority of the telecommunications services revenues.**
- **Telecom revenues contribute 4.7% To GDP.**

Growth in the telecommunications sector revenues (2003 – 2009)[1]

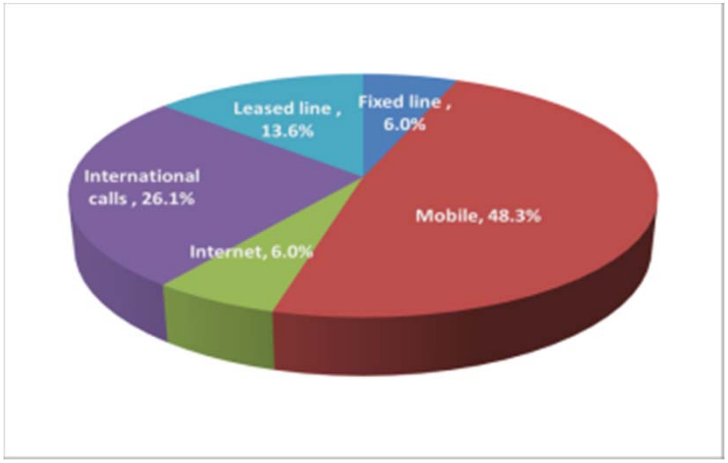


Source: TRA analysis

Note:
[1] Source: Annual gross turnover of licensees.

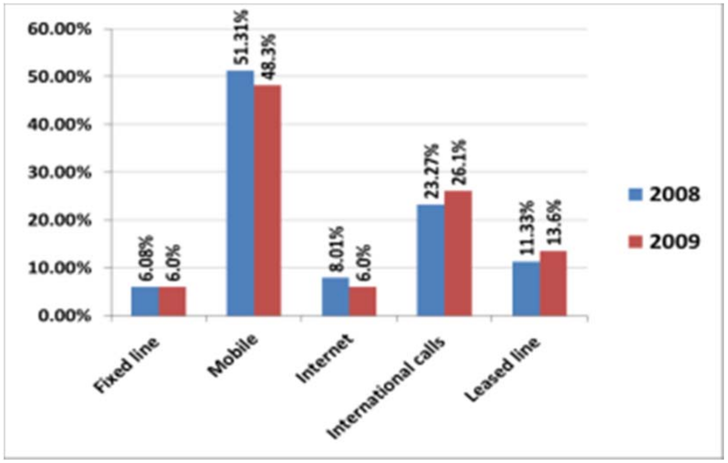
Revenues in the Telecommunications Sector

Estimated distribution of telecommunications revenues[1] in 2009



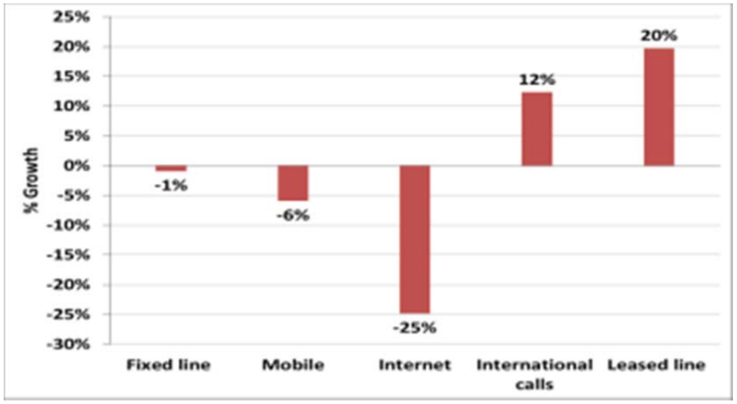
Source: TRA analysis

Estimated distribution of telecommunications revenues[1]



Source: TRA analysis

Growth in revenues segments over 2008-2009



Source: TRA analysis

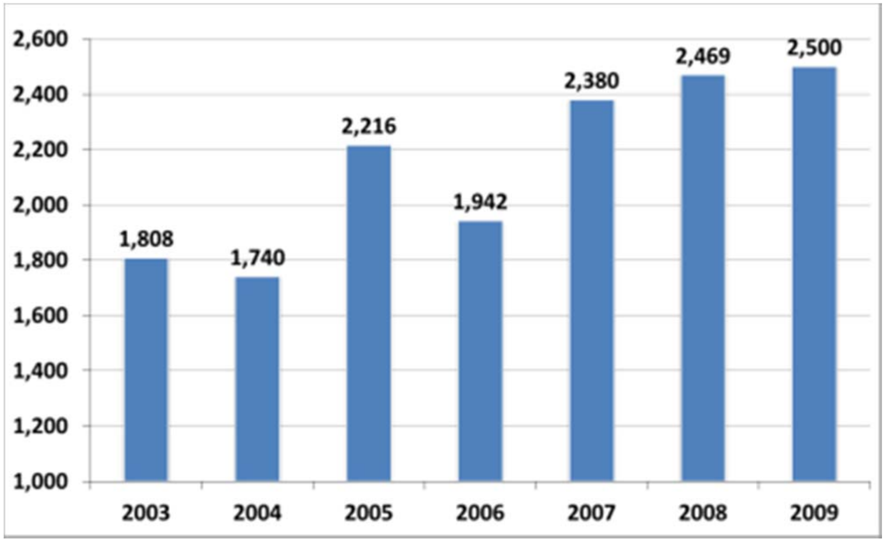
Notes:

[1] Revenues are for retail services only .
Fixed lines revenues: include subscription revenues, monthly rental and domestic calls revenues.
Mobile revenues: include subscription revenues, monthly rental, domestic calls revenues and mobile broadband revenues.
Internet revenues: include subscription revenues, monthly rental revenues and excess usage revenues.

Employment in the Telecommunications Sector

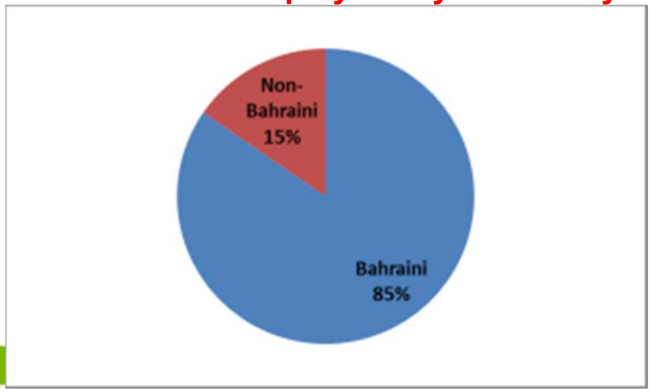
- **1% growth in number of employees between 2008 and 2009**
- **38% growth since liberalisation**
- **The sector achieves a high degree of Bahrainisation (85%) compared to other sectors (e.g. Bahrainisation in the Banking and Financial Sector stands at 67%)**

Growth in the number of employees in the telecommunication sector [1]



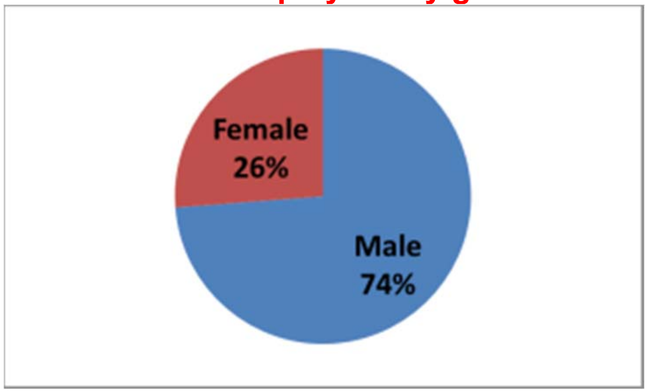
Source: TRA analysis

Distribution of employees by nationality



Source: TRA analysis

Distribution of employees by gender



Source: TRA analysis

[1] Operators exclude the staff of the services companies working in the telecommunications sector.

Fixed telephony services

➤ By the end of Q3 2010, there were about 229,000 fixed lines.

➤ Fixed wireless service as a proportion of total fixed lines has increased from less than 1% in 2007 to about 16% in Q3 2010 due to the offers of Zain and Menatelecom.

➤ The number of fixed lines grew by 8% between 2008 and 2009 due to the growth of fixed wireless. The number of fixed PSTN lines actually fell between 2008 and 2009 by 2%.

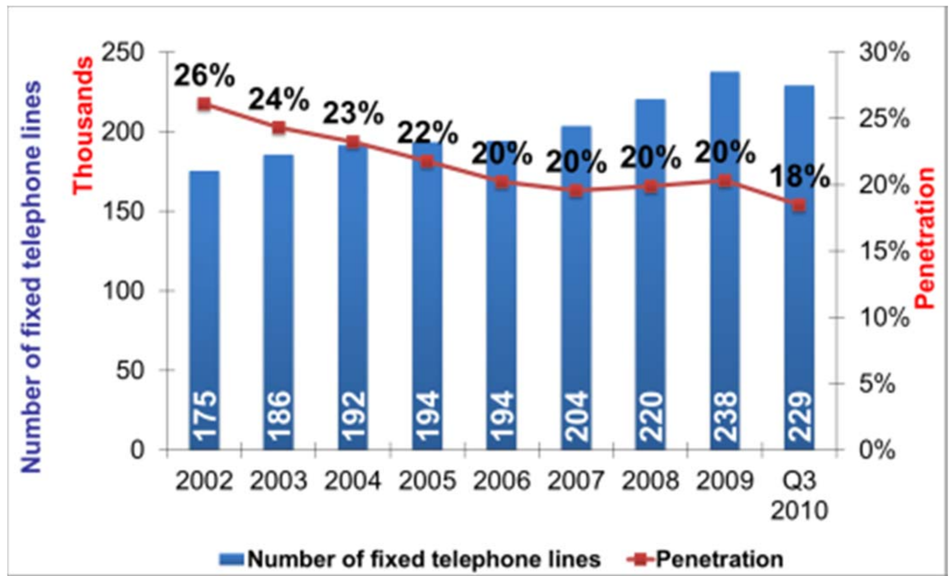
➤ Although the number of telephony lines is increasing, fixed lines penetration has been static over 2006 - 2009. This is due to the rapid increase in the population.

Number of fixed telephony lines

Number of fixed telephone lines	2002	2003	2004	2005	2006	2007	2008	2009	Q3 2010
Fixed PSTN	175,446	185,756	191,553	193,520	194,196	202,469	206,301	202,444	191,516
Fixed Wireless						1,072	14,085	35,177	37,480
Total	175,446	185,756	191,553	193,520	194,196	203,541	220,386	237,621	228,996

Source: TRA analysis

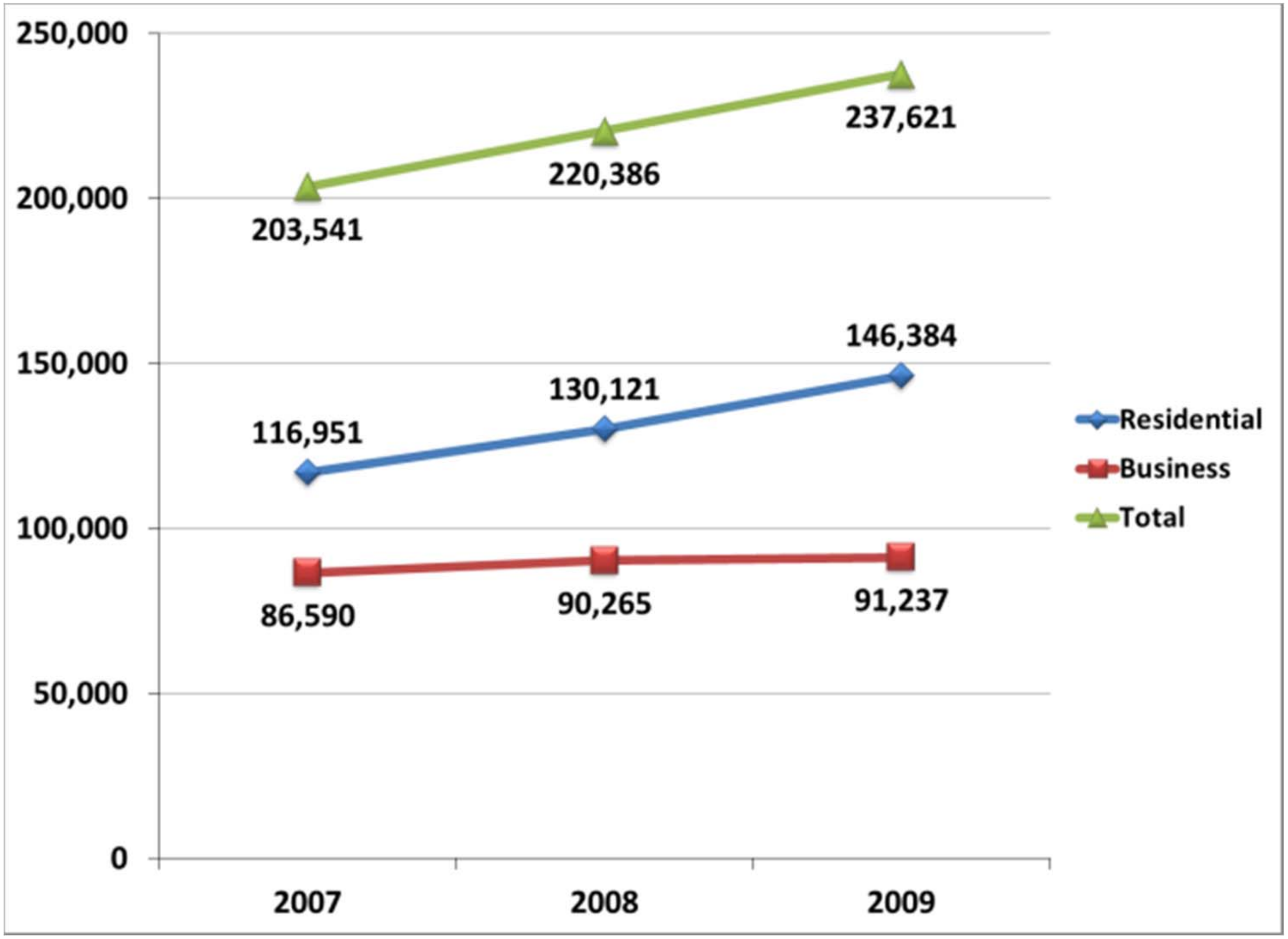
Growth in the number of fixed telephony lines[1]



Source: TRA analysis

[1] 2009 and Q3 2010 penetration is calculated based on estimated population.

Fixed telephony lines



Source: TRA analysis

Fixed line outgoing minutes

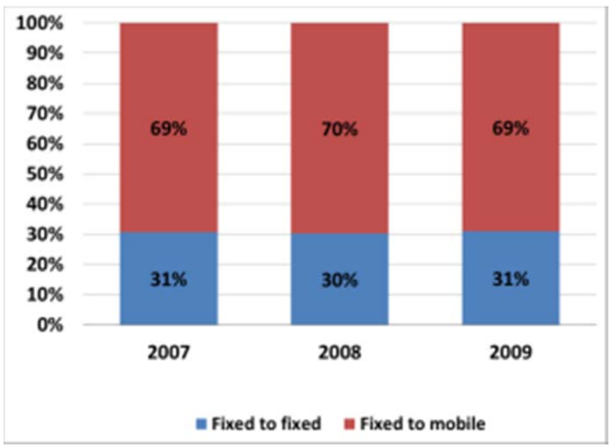
- Fixed telephony traffic decreased by 0.1% between 2008 and 2009.
- About 70% of national traffic originated from fixed lines are fixed-to-mobile calls.

Fixed lines national outgoing minutes (volume)

Yearly national outgoing minutes in million	2007	2008	2009	Growth 2008 - 2009
Fixed to fixed	299	310	316	1.9%
Fixed to mobile	674	712	705	-1.0%
Total	973	1,022	1,021	-0.1%

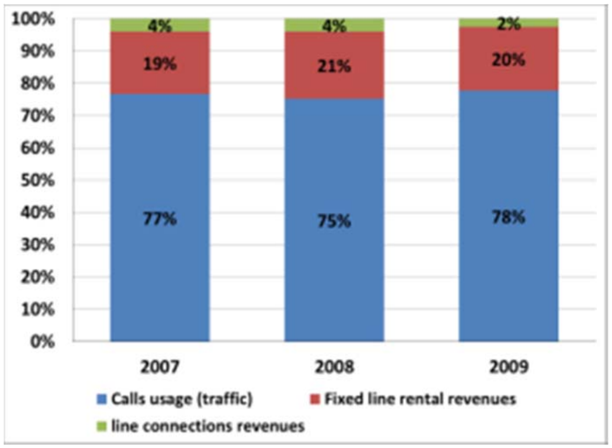
Source: TRA analysis

Proportion of fixed national calls (Minutes)



Source: TRA analysis

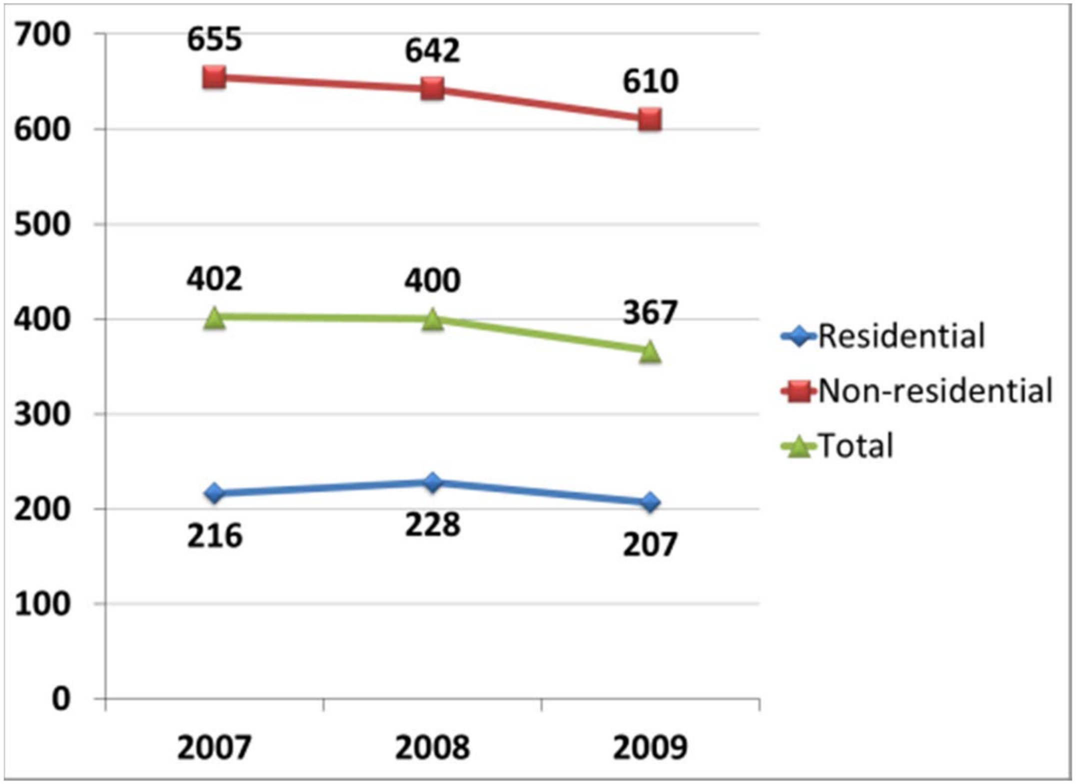
Proportion of fixed lines revenues[1]



Source: TRA analysis

Note:
1 Call usage revenues are for national calls only.

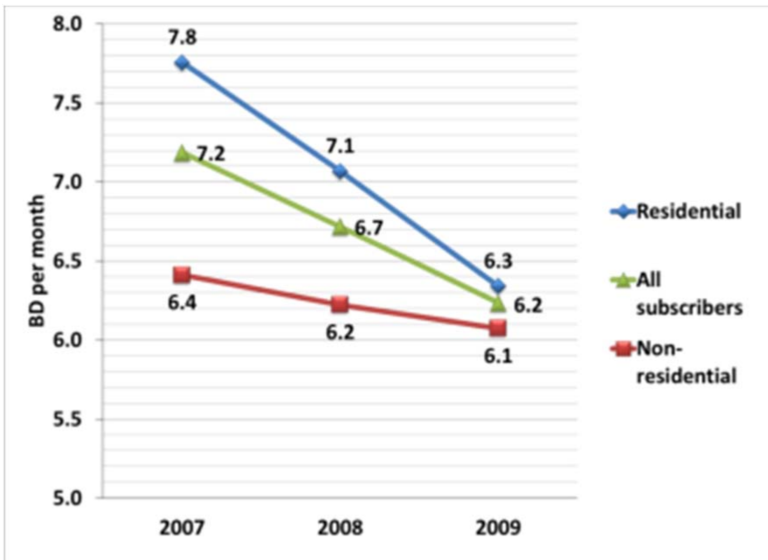
Average monthly national outgoing minutes per subscriber



Source: TRA analysis

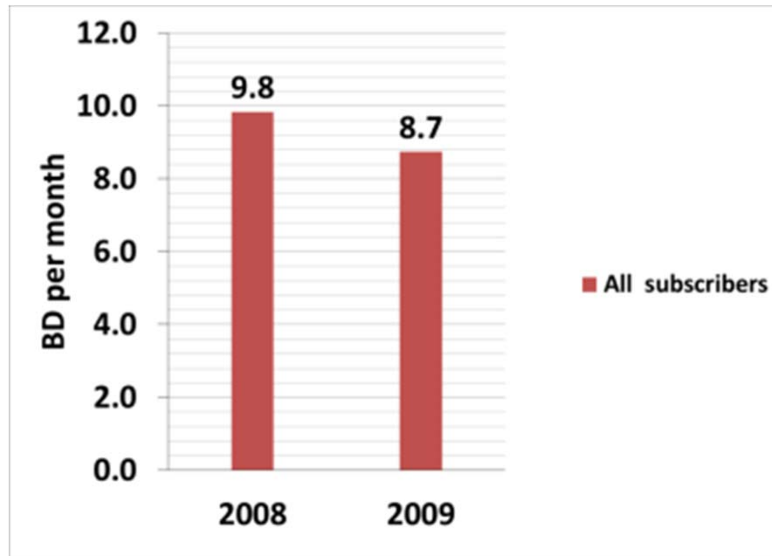
Average revenue per fixed line user (ARPU)

Average revenue per user
(excluding international calls revenues)



Source: TRA analysis

Average revenue per user
(including international calls revenues)



Source: TRA analysis

Monthly ARPU decreased by BD 1.1 due to the decrease in international direct dial revenues, constant revenues for national calls and growth in the number of fixed lines.

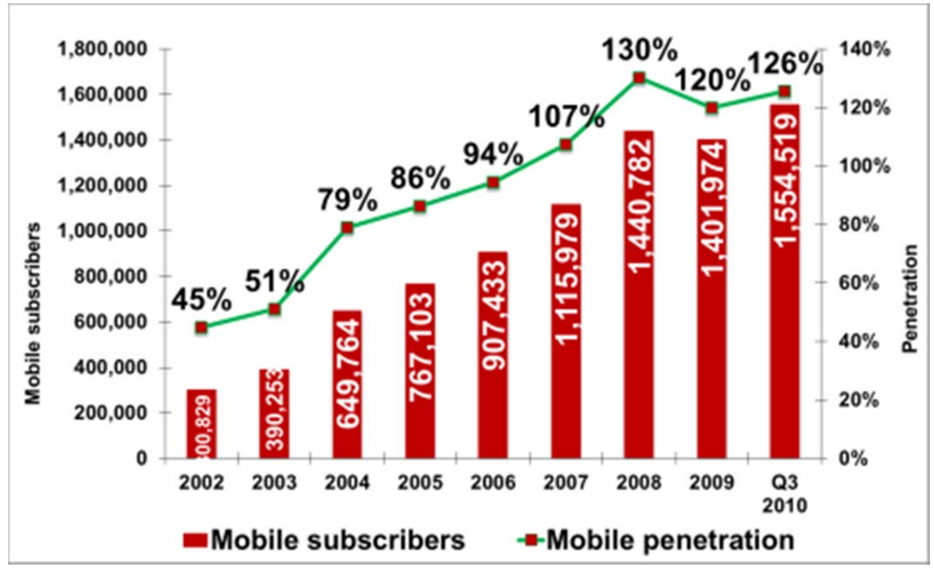
Note:
-Fixed lines revenues includes usage, monthly rental and line connections revenues.
-All subscribers ARPU's are weighted averages.
-International calls revenues are from direct dial and CPS

Mobile services

➢At the end of Q3 2010 there were about 1.6 million mobile subscribers in Bahrain[1].

➢In Q3 2010 mobile penetration in Bahrain was 126%.

Growth in the number of mobile subscribers[1]



Source: TRA analysis

Proportion of prepaid and postpaid subscribers

Source: TRA analysis

➢The mobile market in Bahrain remains predominantly prepaid. Prepaid subscribers represented 84% of mobile subscribers at the end of Q3 2010.

[1] The drop in the number of mobile subscribers in 2009 is due to the prepaid SIM card registration campaign and compliance by Batelco with the ITU active prepaid subscribers' definition. 2009 penetration is calculated based on estimated population.

Mobile traffic

Mobile outgoing minutes (volume)

Mobile outgoing minutes (National only) (in '000)	2007	2008	2009	2008 - 2009 Growth rate	2007 - 2009 CAGR
From Prepaid	901,767	1,081,490	1,234,707	14%	17%
From Postpaid	671,335	752,750	661,584[1]	-12%	-1%
Total	1,573,102	1,834,240	1,896,291	3%	10%

Source: TRA analysis

- Most of the mobile traffic originates from prepaid subscribers.
- Domestic prepaid mobile outgoing minutes grew by 14% between 2008 and 2009.
- in 2009 domestic traffic originated from prepaid represented 65% of the total domestic mobile traffic.

Number of SMS	2008	2009	2008 - 2009 Growth rate
Prepaid	166,216,382	201,170,470	21%
Postpaid	143,267,179	156,636,347	9%
Total	309,483,561	357,806,817	16%

Source: TRA analysis

- Most of the SMS originated from prepaid subscribers.
- SMS's grew by 16% between 2008 and 2009.

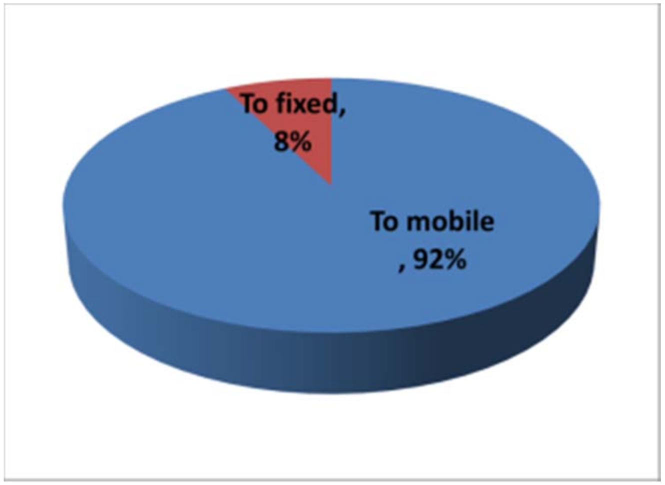
Note:
The drop in the postpaid traffic is due to revised data from Batelco

Mobile traffic

➢ 92% of national mobile traffic terminated to mobile.

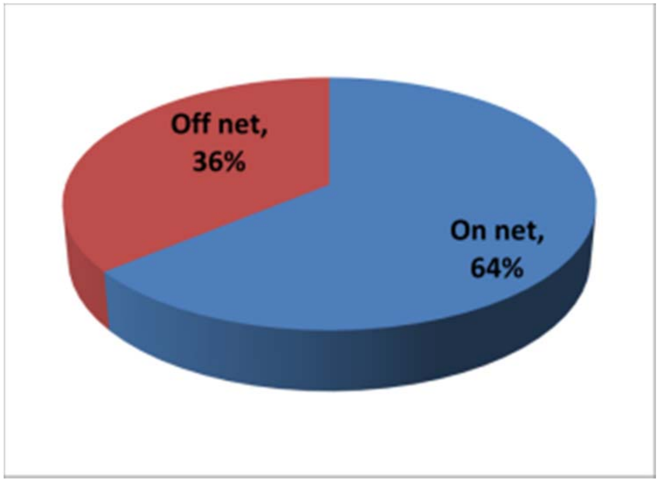
➢ 64% of mobile to mobile national minutes are On net minutes.

Proportion of national outgoing minutes from mobile in Q4 2009



Source: TRA analysis

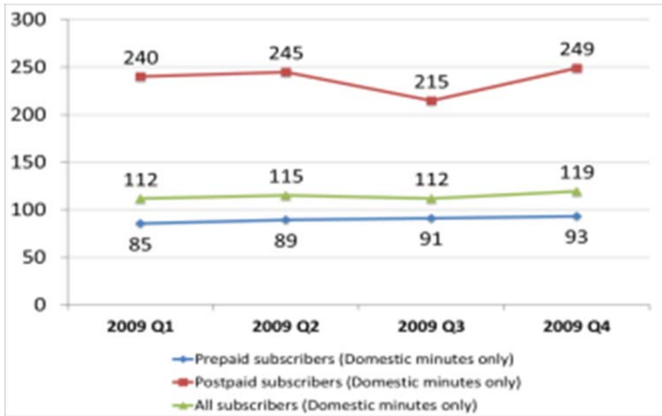
Proportion of on net and off net for the national outgoing minutes from mobile to mobile in Q4 2009



Source: TRA analysis

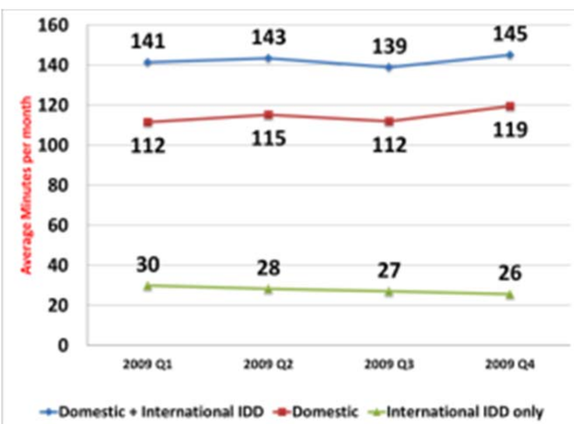
Mobile traffic (Minutes and SMS)

Average monthly outgoing minutes per subscriber (Domestic traffic only)



Source: TRA analysis

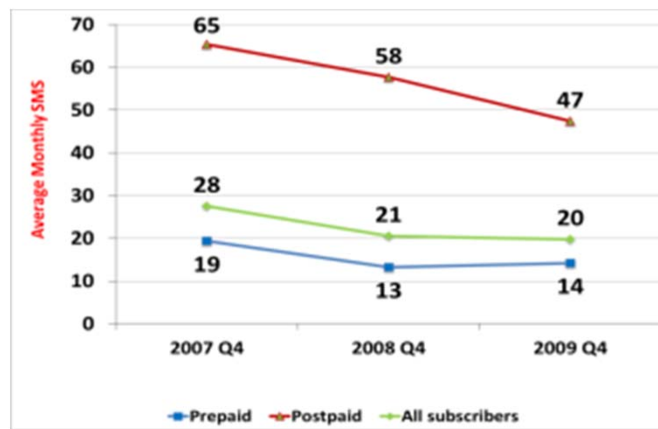
Average monthly outgoing minutes per subscriber (Domestic and International traffic)



Note: International traffic are IDD traffic only.

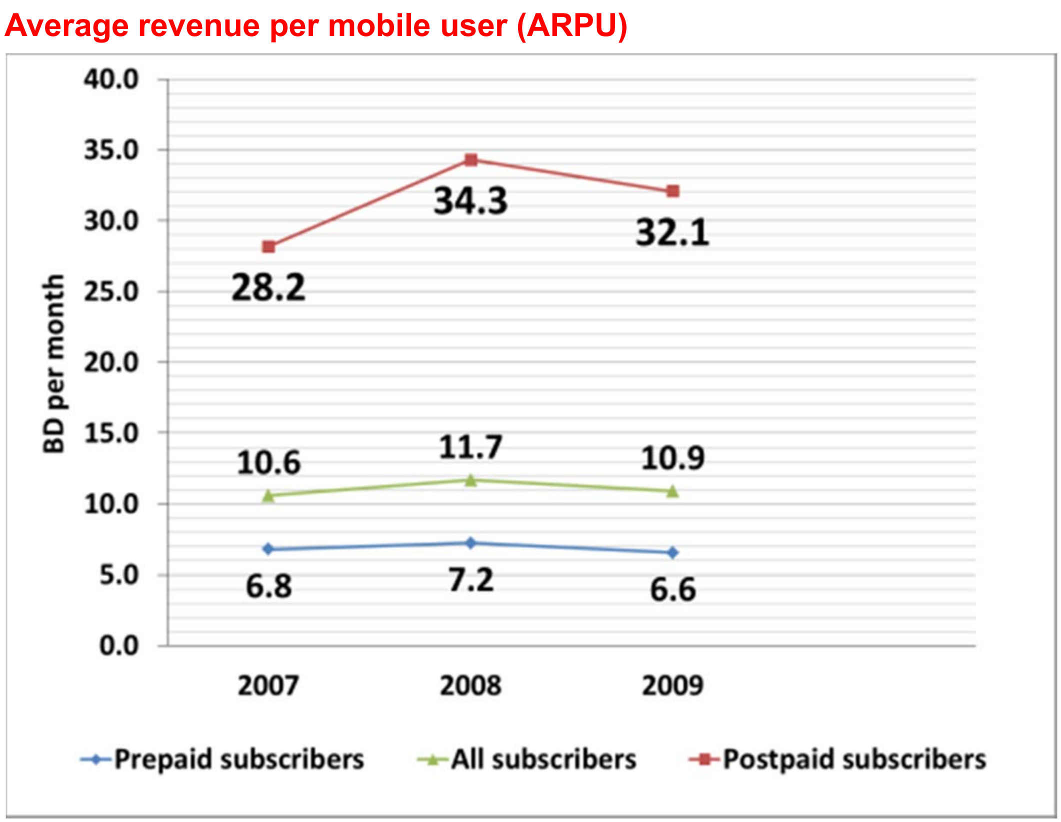
Source: TRA analysis

Average monthly outgoing SMS per subscriber



Source: TRA analysis

Average revenue per mobile user (ARPU)

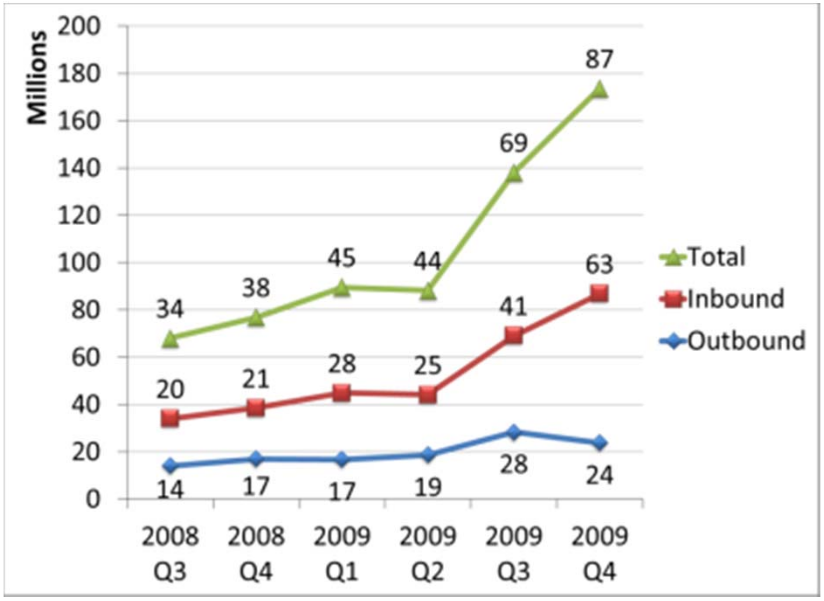


Source: TRA analysis

Note:
-Revenues including connection charges and usage charges (including international direct dial usage only) .
-All subscribers ARPU's are weighted averages.

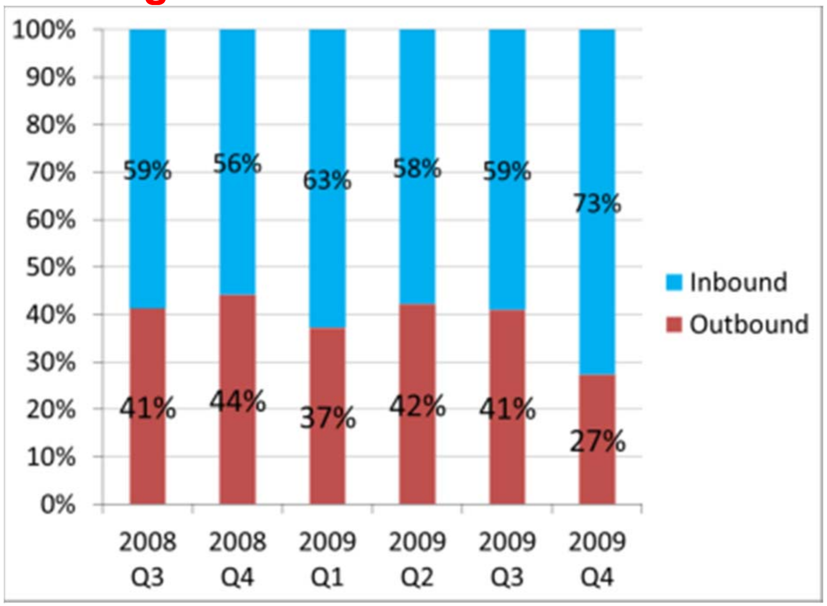
Roaming Traffic

Growth in roaming traffic



Source: TRA analysis

Proportion of inbound and outbound roaming traffic

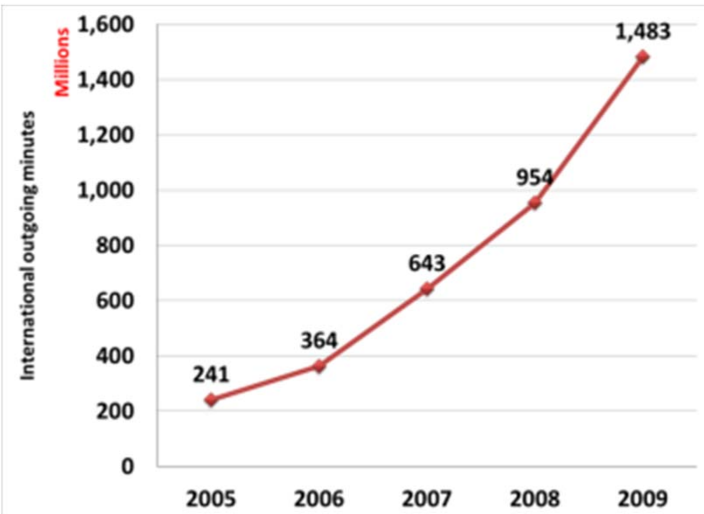


Source: TRA analysis

Note:
Outbound: Total number of roaming minutes for own mobile subscribers to make and receive calls when outside the country (outside home network), e.g., when traveling abroad.
Inbound: Total number of minutes made by visiting (foreign) subscribers when making and receiving calls within a country.

International Outgoing minutes

Growth in international outgoing minutes



Source: TRA analysis

International outgoing minutes

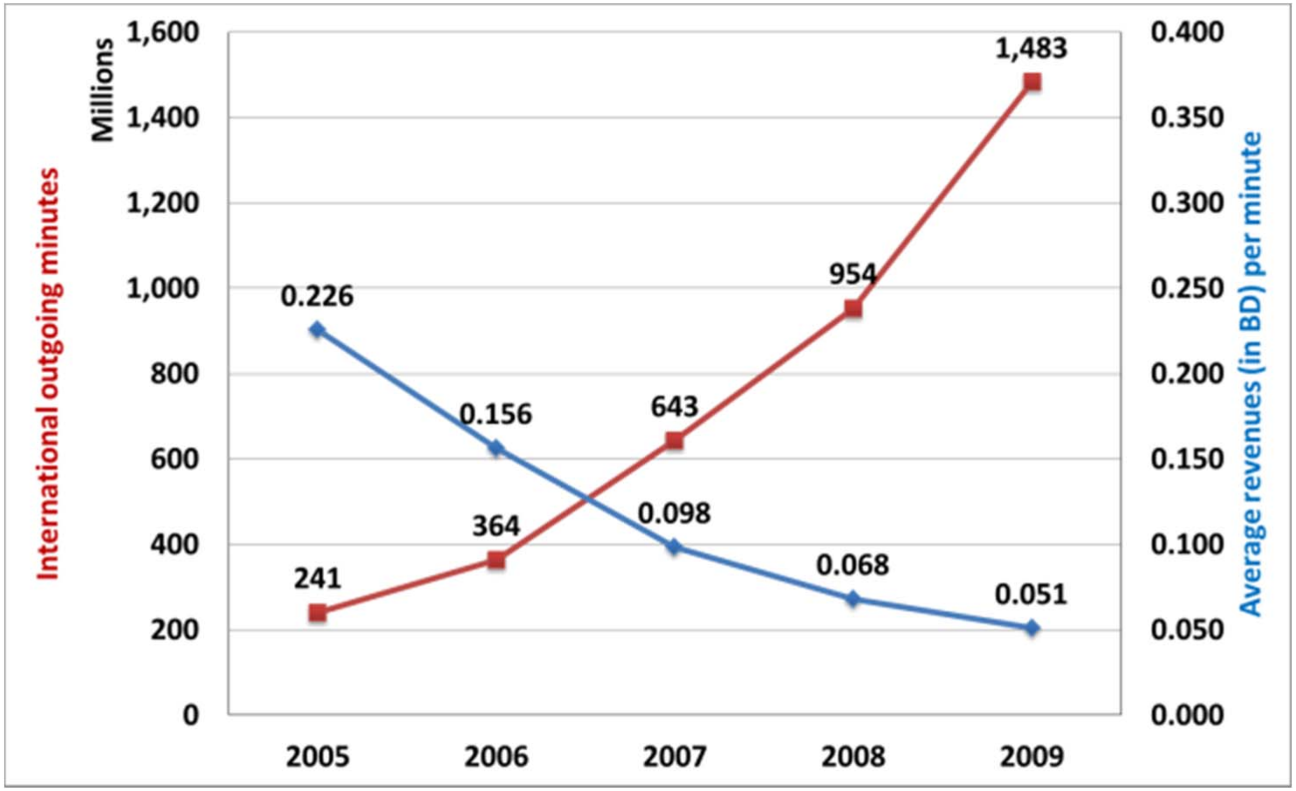
Minutes (in million)[1]	2005	2006	2007	2008	2009	CAGR 2005 - 2009
GCC	70.00	93.10	109.00	106.00	131	17%
Zone 2	95.00	167.00	400.00	686.50	1,128	86%
Zone 3	30.00	40.30	59.00	53.00	83.3	29%
Zone 4	45.30	63.00	74.10	108.30	140.7	33%
Total	**240.30**	**363.40**	**642.10**	**953.80**	**1,483**	**57%**

Source: TRA analysis

International traffic is still growing rapidly. Between 2008 and 2009, international traffic grew by 55%.

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.

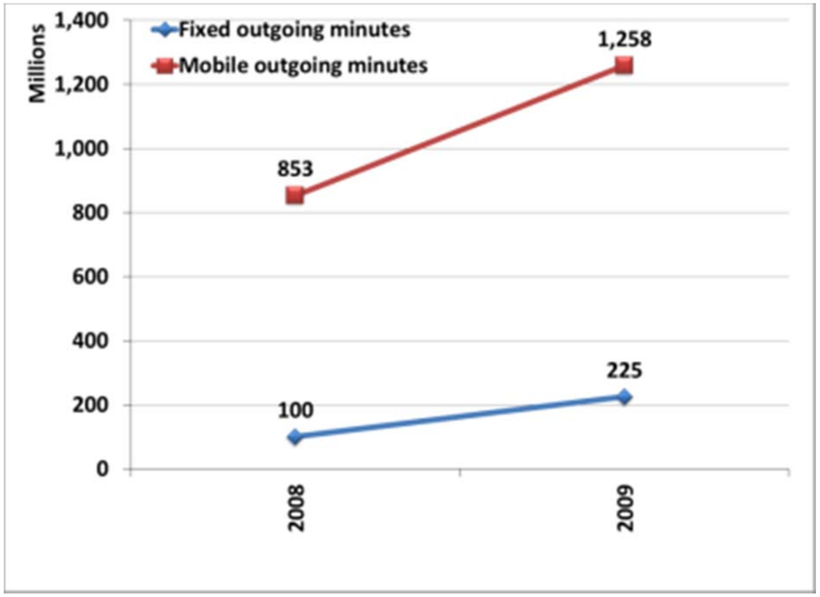
Price elasticity



Source: TRA analysis

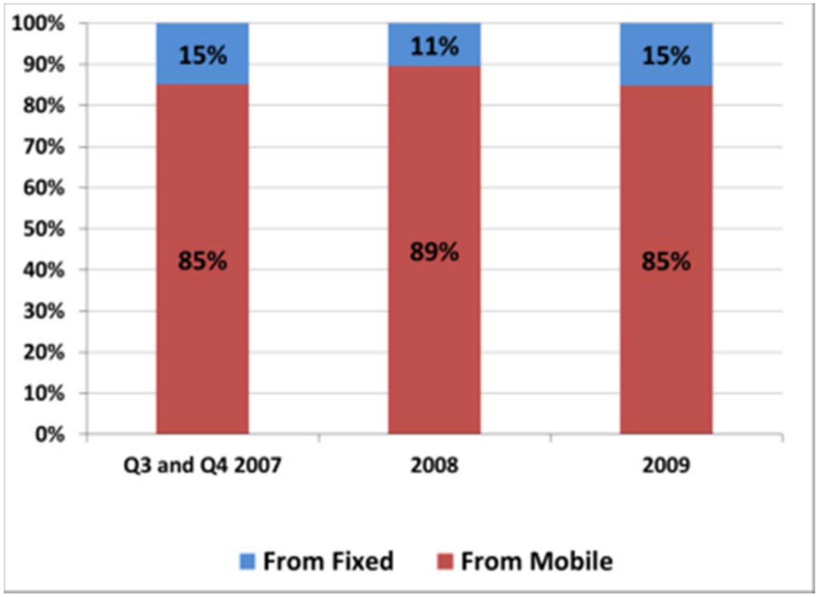
International Outgoing minutes

International outgoing minutes originated on mobile[1] grew by 47% between 2008 and 2009.



Source: TRA analysis

International outgoing minutes originated on mobile represents 85% of the total international outgoing minutes in 2009.

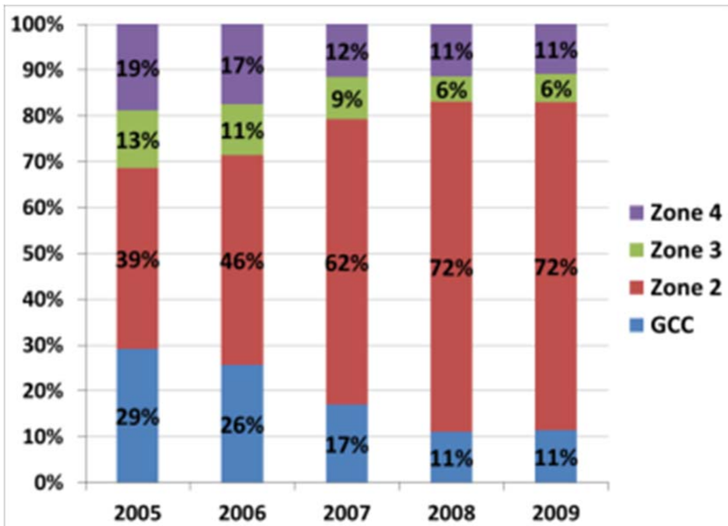


Source: TRA analysis

[1] Minutes including prepaid calling card traffic.

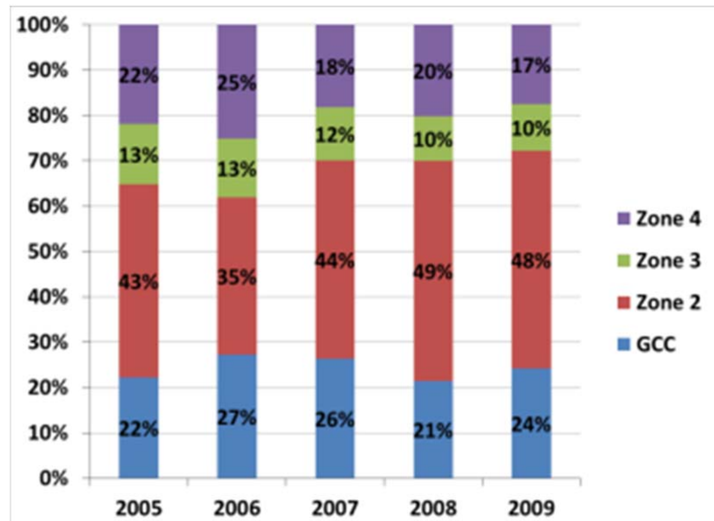
International traffic vs. revenues

About 72% of total international calls (minutes) were made to South Asian countries in 2009



Source: TRA analysis

About 48% of international revenues were generated from calls to South Asian countries in 2009



Source: TRA analysis

International Calls revenues

➢16% growth in international calls revenues between 2008 and 2009.

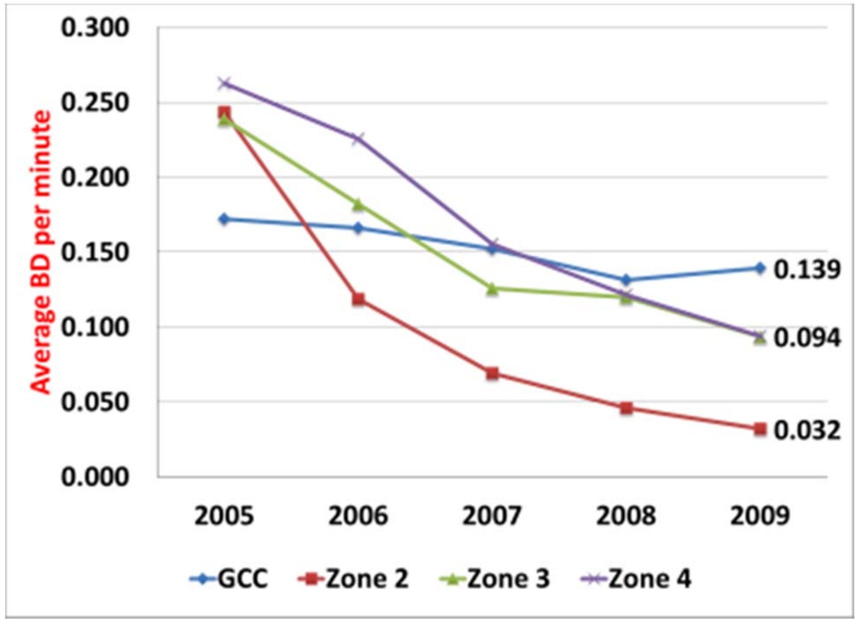
International calls revenues

Revenues (in million)	2005	2006	2007	2008	2009
GCC	12.10	15.40	16.60	13.93	18.2
Zone 2	23.20	19.70	27.60	31.56	36.3
Zone 3	7.20	7.30	7.40	6.36	7.8
Zone 4	11.90	14.30	11.50	13.13	13.2
Total	**54.40**	**56.70**	**63.10**	**65.00**	**75.5**

Source: TRA analysis

➢The average revenue per minute for zone 2 is the smallest. It has declined from about 240 fils in 2005 to about 32 fils in 2009.

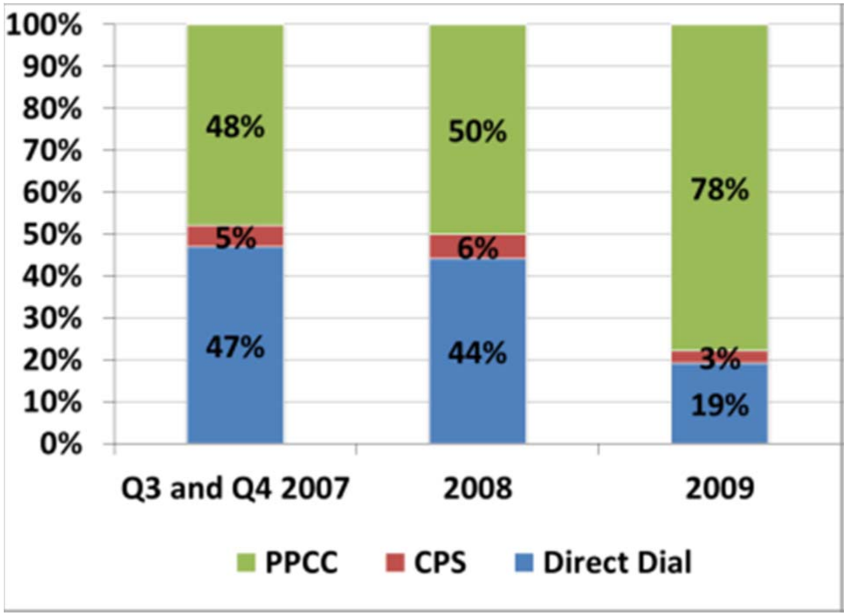
Average revenue per minute by zone



Source: TRA analysis

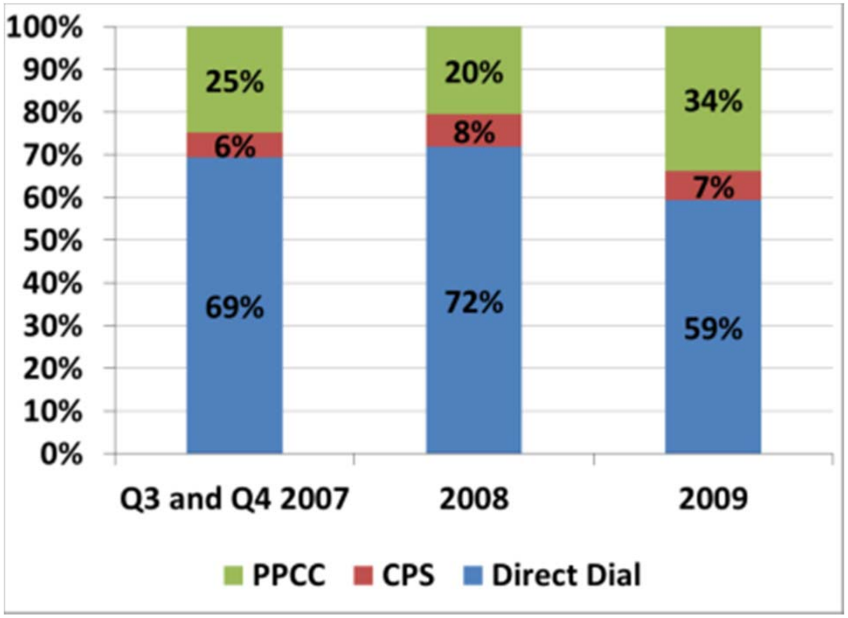
Distribution of international minutes/revenues by access type - Fixed telephony

Distribution of international **minutes** originated from fixed by access type



Source: TRA analysis

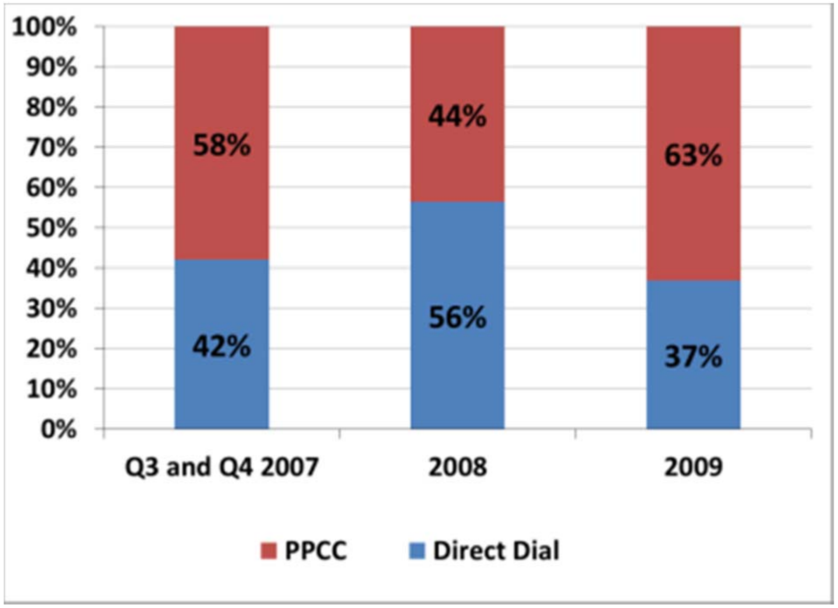
Distribution of international **revenues** originated from fixed by access type



Source: TRA analysis

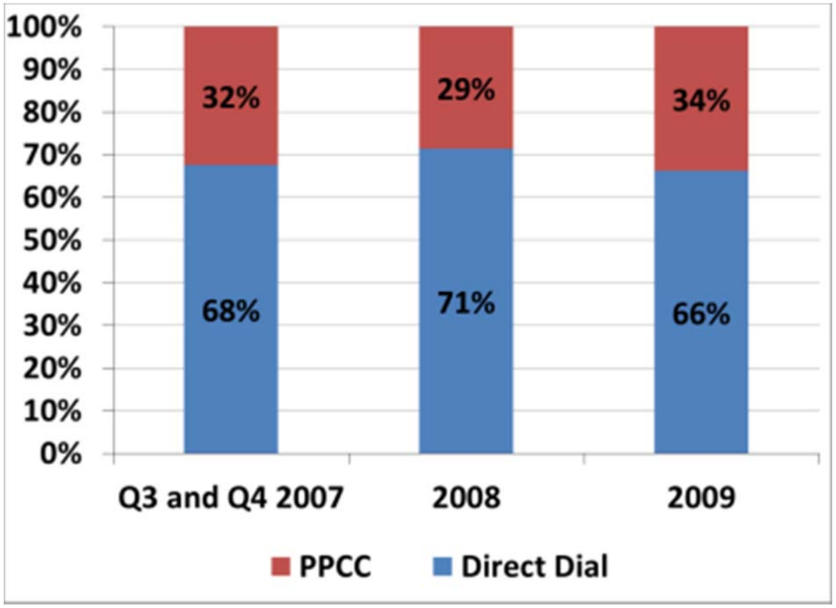
Distribution of international minutes/revenues by access type - Mobile

Distribution of international **minutes** originated from mobile by access type



Source: TRA analysis

Distribution of international **revenues** originated from mobile by access type

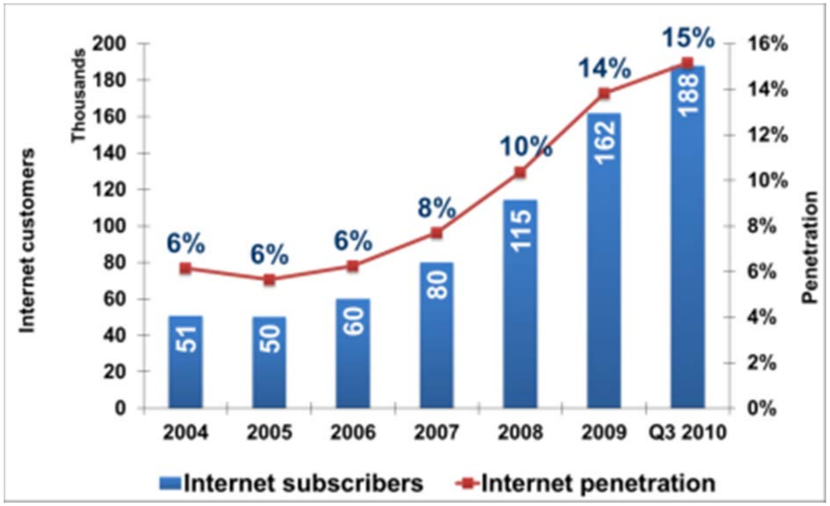


Source: TRA analysis

Internet subscribers

- At the end of Q3 2010 there were about 188,000 internet subscribers, all of which were broadband subscribers.
- The number of broadband subscribers increased by 19% between 2009 and Q3 2010.
- About 85% of households have fixed broadband.

Internet subscribers



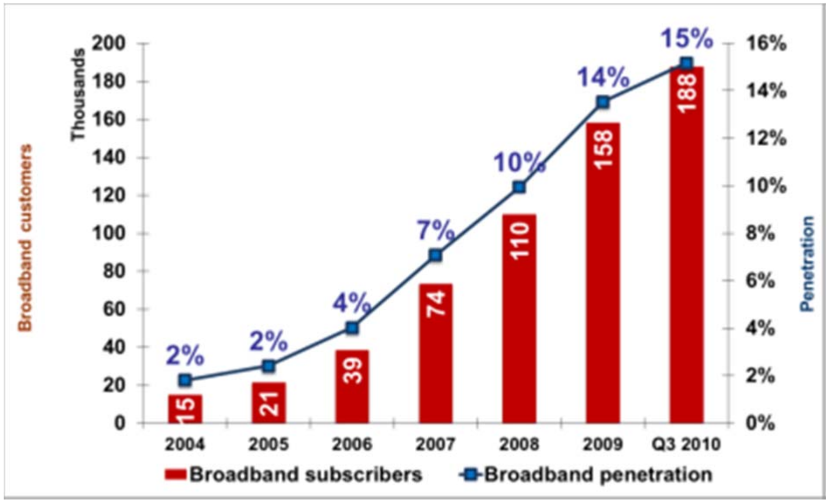
Source: TRA analysis

Internet subscribers

	2004	2005	2006	2007	2008	2009	Q3 2010
Broadband subscribers	14,956	21,432	38,628	73,563	109,994	158,335	187,883
Dial up	35,665	28,867	21,466	6,425	4,508	3,480	0
Total	**50,621**	**50,299**	**60,094**	**79,988**	**114,502**	**161,815**	**187,883**

Source: TRA analysis

Broadband subscribers



Source: TRA analysis

Note: Number of broadband subscribers include mobile broadband subscribers. 2009 and Q3 2010 penetration is calculated based on estimated population.

Internet subscribers

Residential internet subscribers

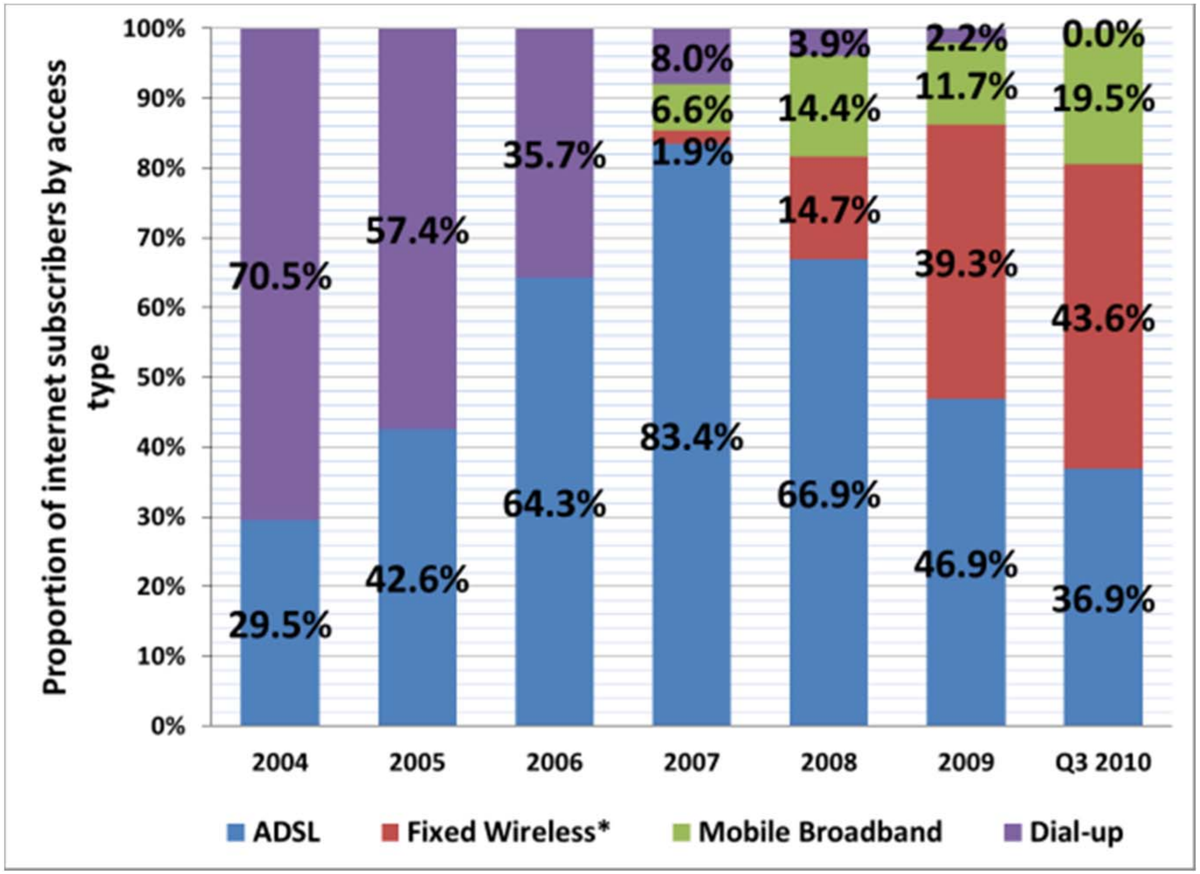
	2004	2005	2006	2007	2008	2009	08 – 09 Growth
Dial up	31,855	25,316	18,175	3,752	1,683	1,715	2%
Broadband subscribers	13,242	18,764	34,858	68,009	101,961	149,581	47%
Total	**45,097**	**44,080**	**53,033**	**71,761**	**103,644**	**151,296**	**46%**

Business internet subscribers

	2004	2005	2006	2007	2008	2009	08 – 09 Growth
Dial up	3,810	3,551	3,291	2,673	2,335	1,765	-24%
Broadband subscribers	1,714	2,668	3,770	5,554	8,033	8,754	9%
Total	**5,524**	**6,219**	**7,061**	**8,227**	**10,368**	**10,519**	1%

Internet subscribers

Proportion of internet subscribers by access type

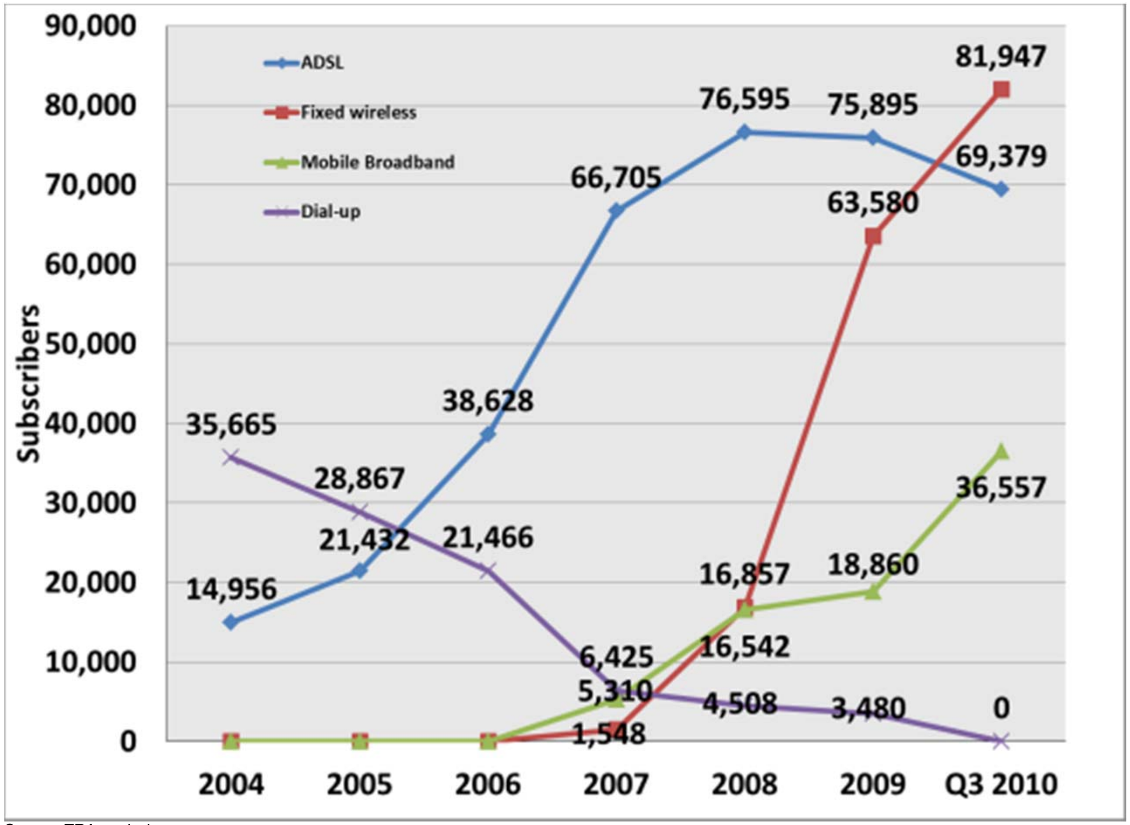


Source: TRA analysis

* Fixed Wireless including: WiMax and Satellite

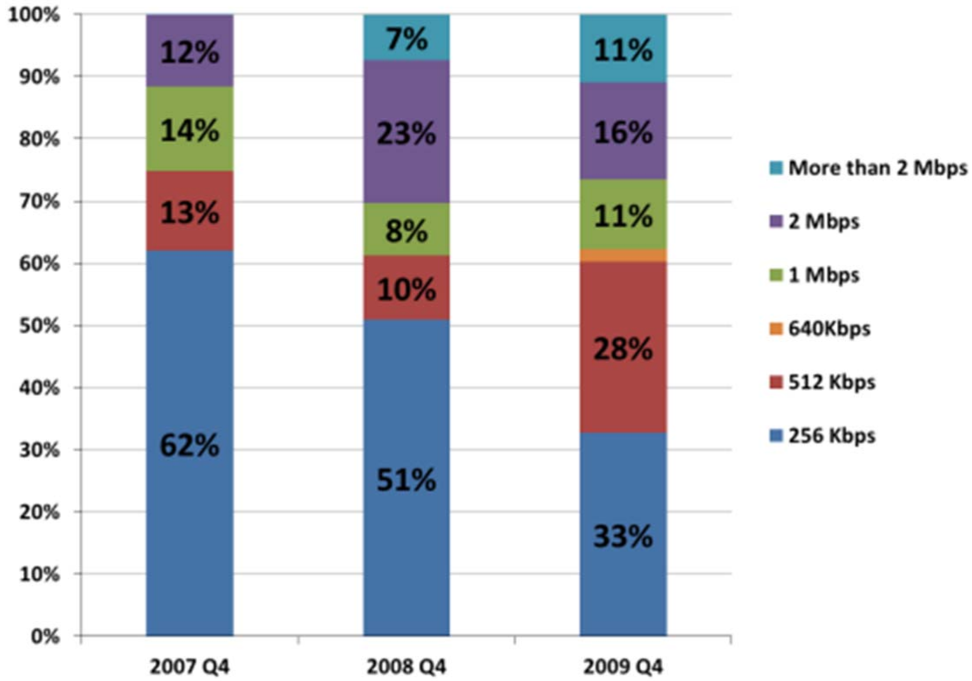
Internet subscribers

Internet subscribers by access type



Source: TRA analysis

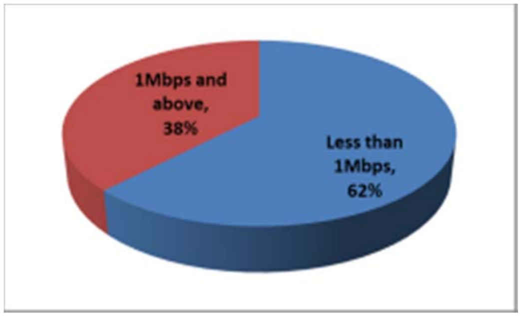
Proportion of broadband subscribers by access speed



Source: TRA analysis

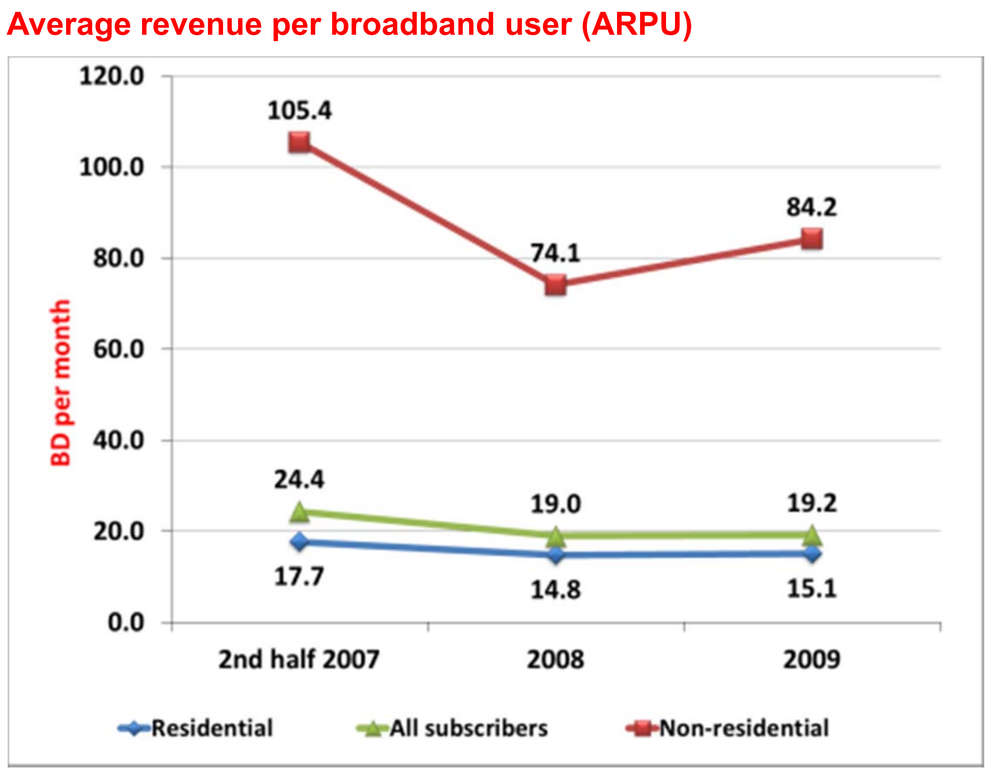
Approximately 40% of broadband subscribers in 2009 had speeds of 1Mbps and above.

Proportion of broadband subscribers by access speed at the end of 2009



Source: TRA analysis

Average revenue per broadband user (ARPU)



Source: TRA analysis

Note: ARPU is a weighted average based on number of subscribers.

Leased lines

Number of domestic leased lines

Leased line speed	2007	2008	2009
x < 64 kbps and less	227	365	235
64 kbps ≤ x < 512 kbps	508	1163	889
512 kbps ≤ x < 1024 kbps	140	181	188
1024 kbps ≤ x < 2048 kbps	104	149	193
2 Mbps ≤ x < 45 Mbps	124	496	637
45 Mbps ≤ x < 155 Mbps	2	27	33
155 Mbps ≤ x < 622 Mbps	0	0	1
x ≥ 622 Mbps	0	3	2
Total	1105	2384	2178

Source: TRA analysis

International leased lines

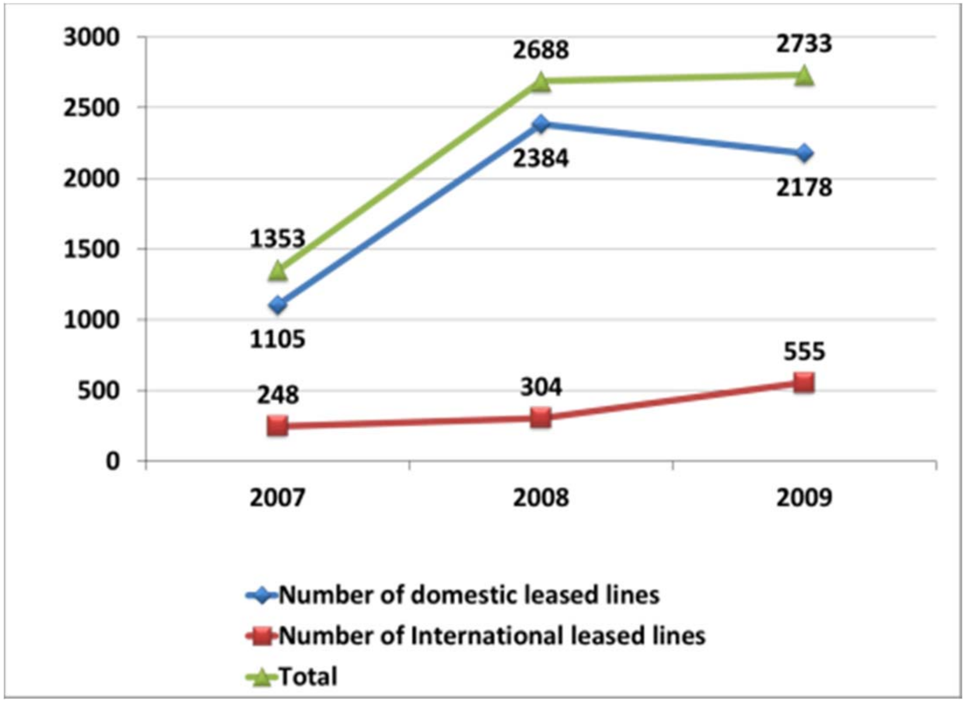
Destinations	Speed	2007	2008	2009
Zone 1	Analogue and Speeds lower than 64Kbps	0	29	19
	x < 1 Mbps	133	146	144
	1Mbps ≤ x < 2 Mbps	6	4	139
	2 Mbps ≤ x < 45 Mbps	45	56	140
	45 Mbps ≤ x < 155 Mbps	7	10	11
	155 Mbps ≤ x < 622 Mbps	0	0	7
	x ≥ 622 Mbps	3	1	1
	Total	**194**	**246**	**461**
Zone 2	Analogue and Speeds lower than 64Kbps	0	7	14
	x < 1 Mbps	15	14	15
	1Mbps ≤ x < 2 Mbps	1	2	0
	2 Mbps ≤ x < 45 Mbps	0	2	9
	45 Mbps ≤ x < 155 Mbps	1	0	0
	155 Mbps ≤ x < 622 Mbps	0	0	1
	x ≥ 622 Mbps	0	0	1
	Total	**17**	**25**	**40**
Zone 3	Analogue and Speeds lower than 64Kbps	0	1	1
	x < 1 Mbps	20	18	35
	1Mbps ≤ x < 2 Mbps	1	0	0
	2 Mbps ≤ x < 45 Mbps	11	9	9
	45 Mbps ≤ x < 155 Mbps	3	2	4
	155 Mbps ≤ x < 622 Mbps	0	0	3
	x ≥ 622 Mbps	2	3	2
	Total	**37**	**33**	**54**
	Grand total	**248**	**304**	**555**

Source: TRA analysis

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

Leased lines

Number of domestic and international leased lines



Source: TRA analysis

Benchmarking

Telecommunications Price Benchmarking for Arab Countries 2010

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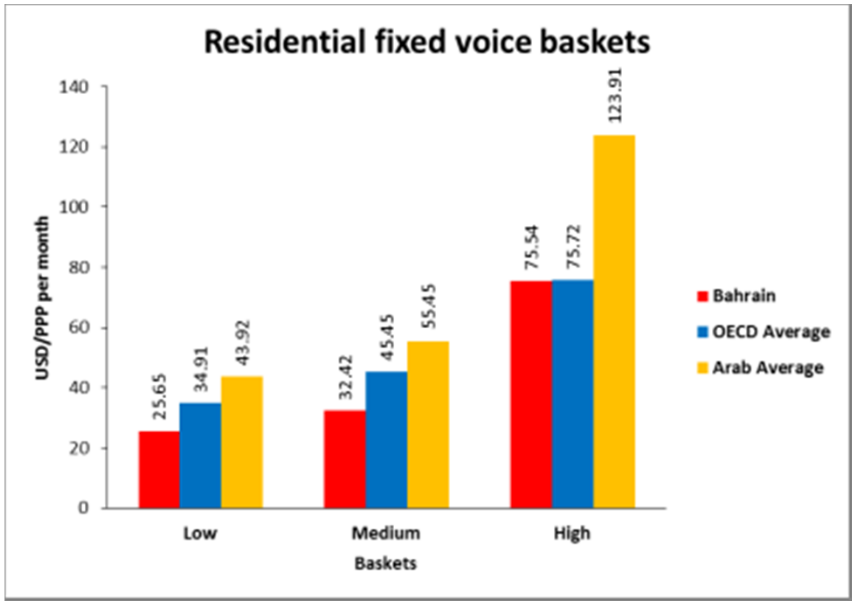
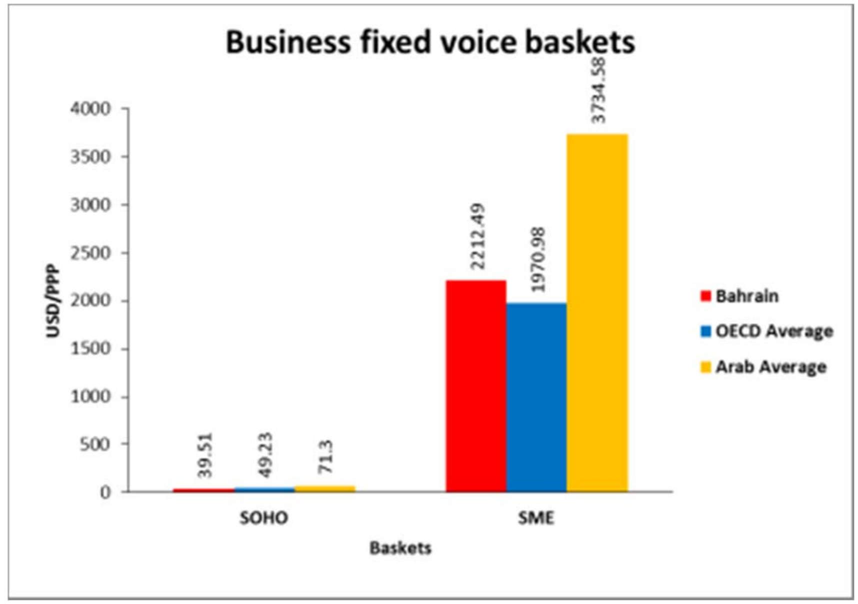
Telecommunications Regulatory Authority

Telecommunications Price Benchmarking
PSTN baskets



Source: Teligen

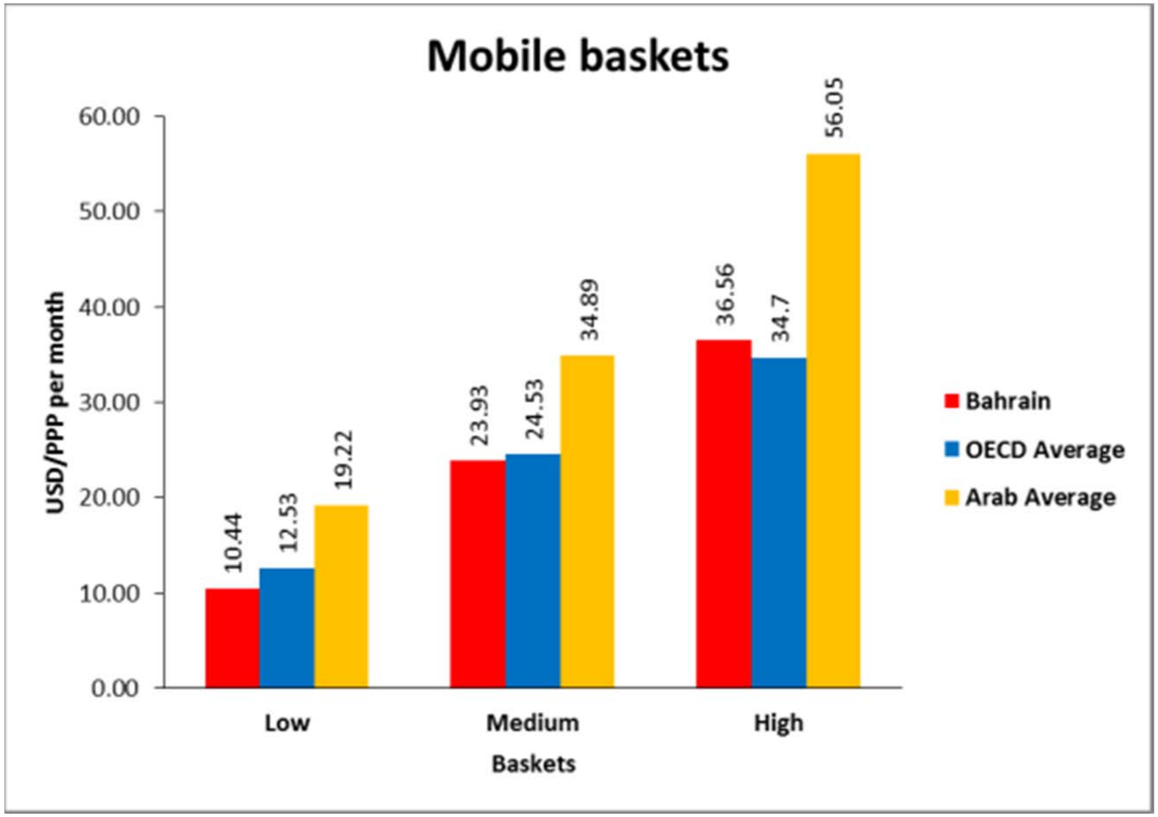


Source: Teligen

Source: see (http://www.tra.org.bh/en/PriceBenchmarking.asp)

Telecommunications Price Benchmarking
Mobile baskets

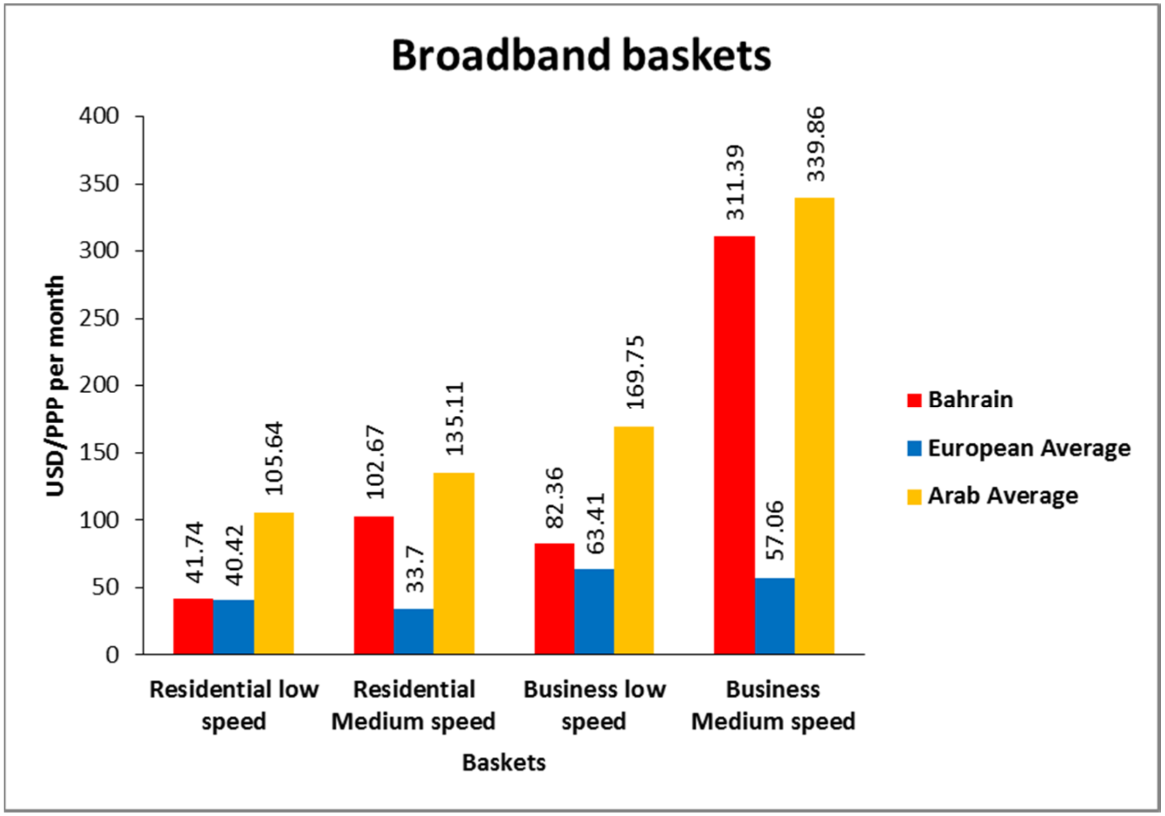
Mobile operators in Bahrain are performing well compared to their peers in the region and in OECD countries.



Source: Teligen

Source: see (http://www.tra.org.bh/en/PriceBenchmarking.asp)

Telecommunications Price Benchmarking
Broadband baskets



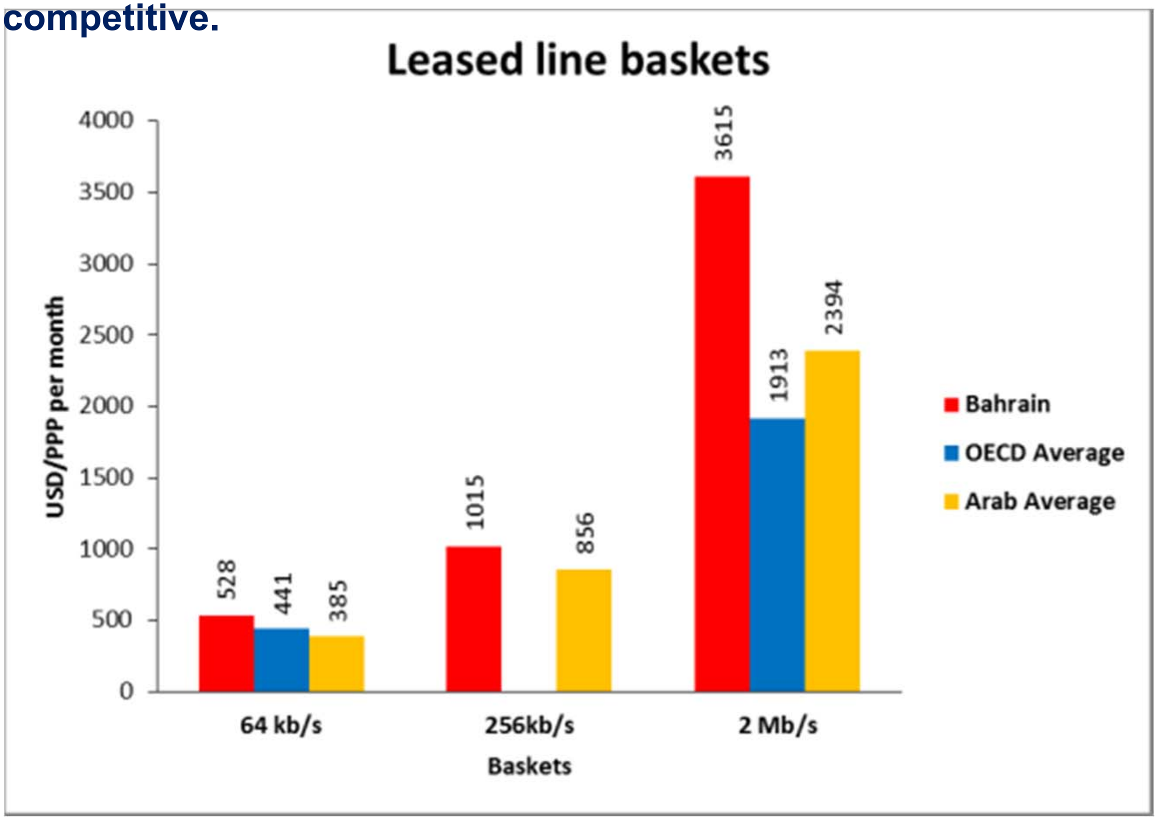
Source: Teligen

Broadband prices in Bahrain have declined by up to 50% over the last two years but are still significantly higher than the European average. The price of a business medium speed broadband (1-4Mbit/s) is still 4 times greater than the European average.

Source: see (http://www.tra.org.bh/en/PriceBenchmarking.asp)

Telecommunications Price Benchmarking
Leased line baskets

By international standards, leased lines tariffs in Bahrain are still not competitive.



Source: Teligen

Source: see (http://www.tra.org.bh/en/PriceBenchmarking.asp)

Telecommunications Price Benchmarking for Arab Countries 2010 – Bahrain ranking

		2008	2009	2010
Fixed voice (PSTN)	Low	3	3	2
	Medium	5	5	5
	High	4	4	4
	SOHO	3	4	3
	SME	2	4	3
	International call basket	4	8	9
Mobile	Low	8	7	8
	Medium	4	3	7
	High	5	5	4
Leased	64 kb/s	6	9	10
	256kb/s	4	7	8
	2 Mb/s	6	9	9
Broadband	Residential low speed	6	6	6
	Residential Medium speed	7	11	10
	Business low speed	8	7	6
	Business Medium speed	9	10	9

Source: Teligen

Note: a ranking of 1 indicates the lowest price in the Arab countries.

Benchmarking

Penetration

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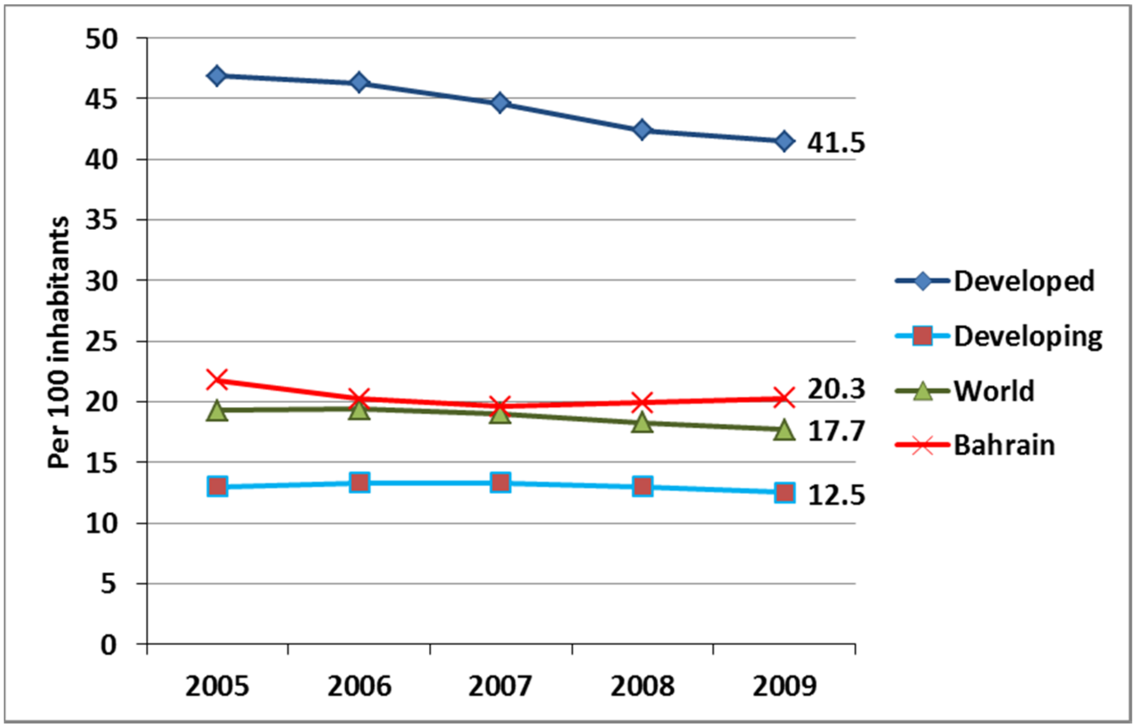
Telecommunications Regulatory Authority

Fixed telephone lines

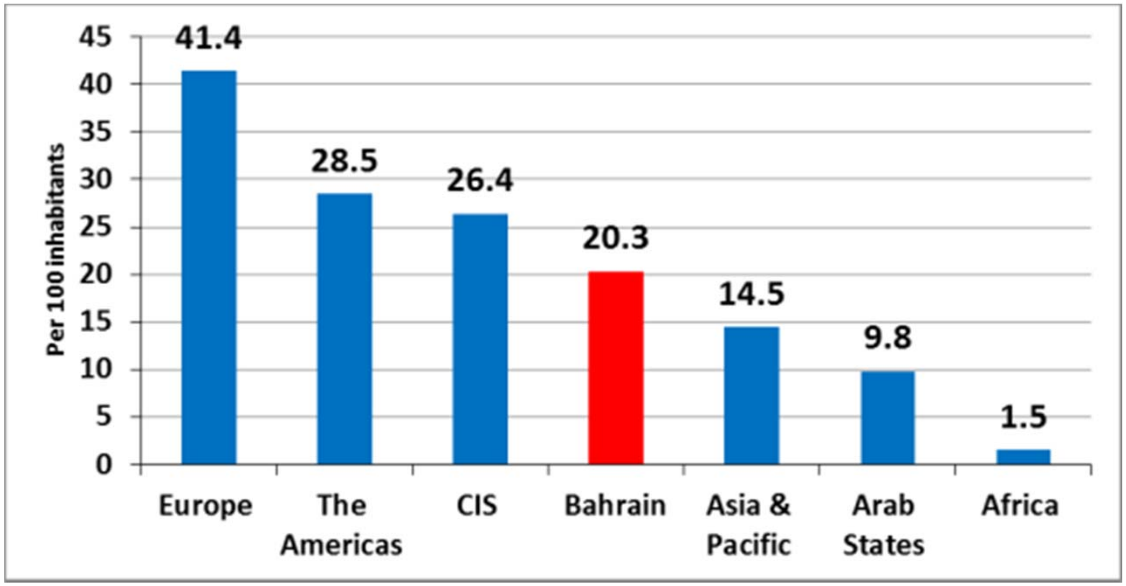
While fixed lines penetration in developed countries declined in the last four years, fixed line penetration in Bahrain remained static.



Source: ITU and TRA analysis

Fixed lines penetration in 2009

Fixed telephone lines penetration in Bahrain is twice the level of fixed line penetration in Arab States.

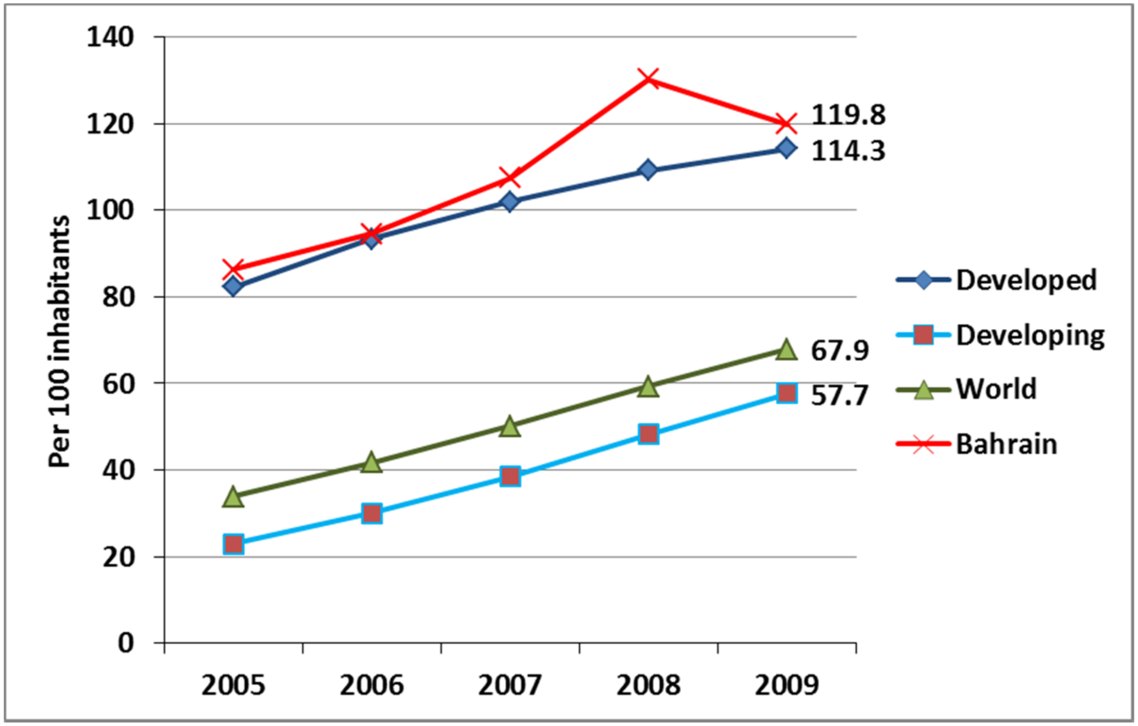


Source: ITU and TRA analysis

Commonwealth of Independent States **(CIS)**: Armenia, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Ukraine, Azerbaijan, Belarus, Russia, Tajikistan, Turkmenistan and Uzbekistan.

Mobile subscriptions

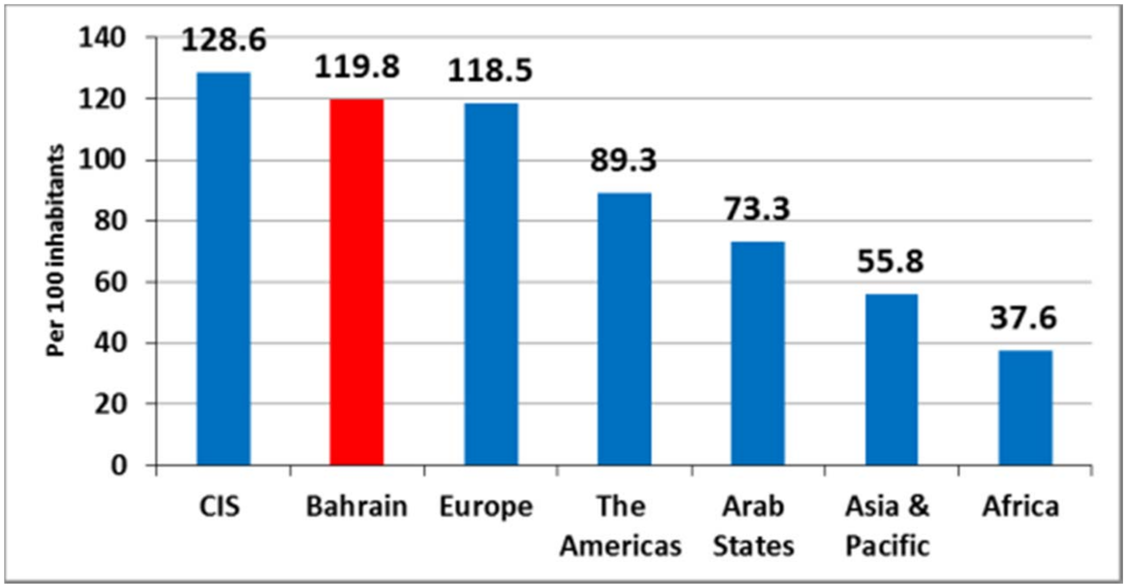
Growth in mobile penetration in Bahrain compares well with developed countries.



Source: ITU and TRA analysis

Mobile penetration in 2009

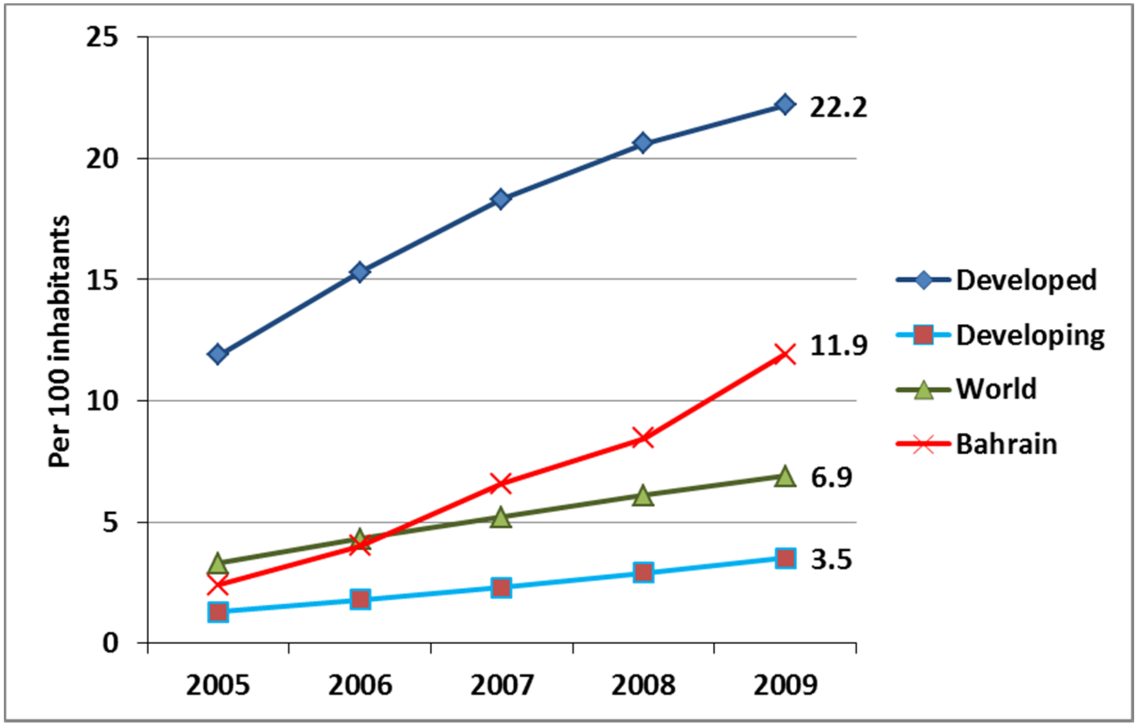
Mobile penetration in Bahrain is relatively high compared to other parts of the world.



Source: ITU and TRA analysis

Fixed broadband penetration in 2009

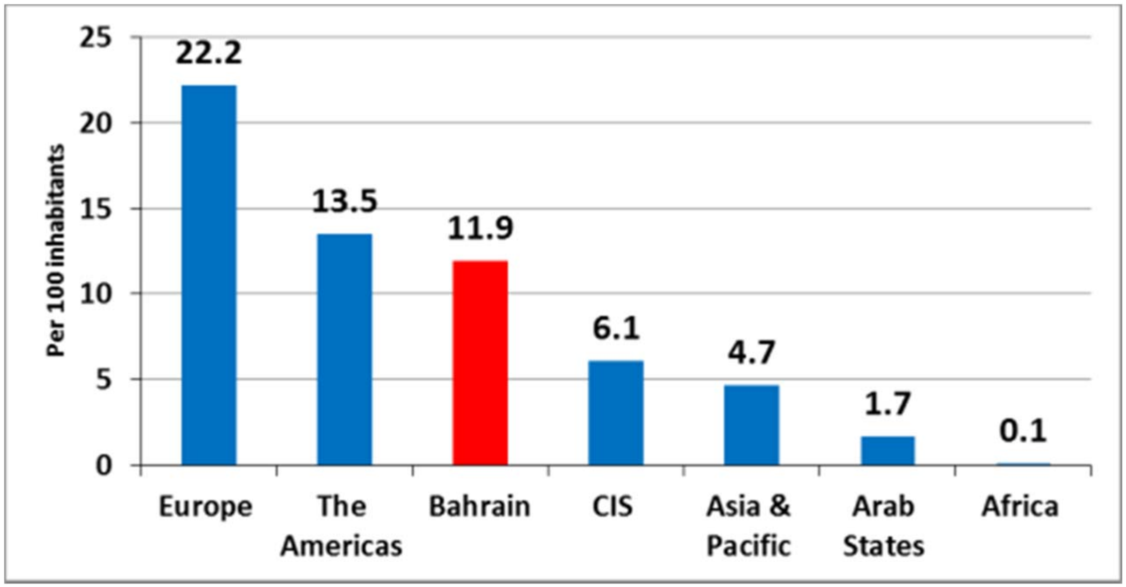
Fixed broadband penetration in Bahrain in 2009 is considerably lower than developed countries.



Source: ITU and TRA analysis

Fixed broadband penetration in 2009

Fixed broadband penetration in Bahrain is seven times fixed broadband penetration in Arab States.



Source: ITU and TRA analysis

List of Acronyms

ADSL	Asymmetric Digital Subscriber Line
ATM	Asynchronous Transfer Mode
BD	Bahraini Dinar
CPS	Carrier Pre-Selection
GCC	Gulf Cooperation Council
IDD	International Direct Dial
ITU	International Telecommunication Union
LAN	Local Area Network
Mb	Megabit
Mbps	Megabit per second
MPLS	Multiprotocol Label Switching
OLO	Other licensed operators
PPCC	Pre-Paid Calling Card
PSTN	Public Switched Telephone Network
SMS	Short Message Service
TRA	Telecommunications Regulatory Authority
VOIP	Voice over Internet Protocol
SMS	Short Message Service
CIS	Commonwealth of Independent States

Definitions of some key 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 (made or received a call/SMS) 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 code 4213ob)	Internet subscribers using other fixed broadband technologies to access the Internet (other than DSL, cable modem and leased 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.
Mobile broadband (Number of cellular mobile subscribers with access to data communications at broadband speeds, ITU 271mb)	Number of subscribers to cellular mobile networks with access to data communications (e.g. the Internet) at broadband speeds (here defined as greater than or equal to 256 kbit/s in one or both directions)* such as WCDMA, HSDPA, CDMA2000 1xEV-DO, CDMA 200 1xEV-DV etc.