

Telecommunications markets indicators in the Kingdom of Bahrain

December 2012

All indicators up to Q4 2011 and some indicators up to Q2 2012



هيئة تنظيم الاتصالات
Telecommunications Regulatory Authority
Kingdom of Bahrain - مملكة البحرين



Contents

	Page
Introduction	3
Disclaimer	4
Key market trends and observations in 2011	5
TRA highlights during 2012	8
Services offered by active operators	10
Main telecoms indicators	11
Revenues in the telecoms sector	12
Employment in the telecoms sector	13
Fixed telephony services	14
Mobile services	18
International calls services	24
Internet services	31
Leased lines and data services	36
Benchmarking of penetration rates	38
Bahrain's ranking on global ICT related indices	39
List of Acronyms	40
Definitions	41



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 Telecommunications 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 licensed operators for the information provided and looks forward to their continued collaboration in the future.

When publishing such information, TRA must have regard to the need to exclude any information which relates to the private affairs of a Person¹ and information which, if published, would or might in the opinion of TRA seriously and prejudicially affect the interests of any Person. TRA has taken the necessary steps to ensure that it complies with the requirements of Article 54, including not publishing information which may be considered confidential information².

This is the seventh telecommunications Markets Indicators Report and it covers a large range of telecoms services indicators up to Q4 2011 such as the number of subscribers, penetration rates, calls usage and telecoms revenues. Some subscriber numbers and penetration rates cover the period up to Q2 2012.

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/Confidentiality_Guidelines_Final.pdf



Disclaimer

- ▶ TRA does not make any representations or warranties, either express or implied, that:
 - ▶ the information is free from inaccuracies, errors or omissions;
 - ▶ the information is exhaustive;
 - ▶ the information is of merchantable quality and fitness for a particular purpose.

- ▶ TRA, including its officers, board members, employees, agents and contractors, is not liable for:
 - ▶ any inaccuracy, error or omission in the information contained in this document; nor
 - ▶ any loss, damage, cost or expense whether direct, indirect, consequential or special, incurred by, or arising by reason of, any person using or relying on the information and whether caused by reason of any inaccuracy, error, omission or misrepresentation in the information or otherwise.



Key market trends and observations - 1

- ▶ **Overall**
 - ▶ BD406 million annual gross turnover of telecoms sector in 2011.
 - ▶ Telecoms revenues represented 4% of GDP in 2011.
 - ▶ Mobile services revenues represent 46% of retail services revenues followed by international calls (22%), leased lines (15%), internet (12%) and fixed telephony (5%).
 - ▶ In 2011 approximately 2,700 employees worked directly in the telecoms sector.
 - ▶ 50% growth in the number of employees since liberalisation in 2003.

- ▶ **Fixed line service**
 - ▶ By the end of Q2 2012, there were about 254,000 fixed lines in Bahrain, representing fixed line penetration of 21%.
 - ▶ Fixed telephony domestic traffic decreased by 27% between 2010 and 2011 due to the increasing use of mobile.
 - ▶ On average, a fixed subscriber made 230 minutes of national calls per month (450 for business and 100 for residential users).
 - ▶ Monthly ARPU decreased from BD5.1 in 2010 to BD4.3 in 2011.



Key market trends and observations - 2

▶ **Mobile services**

- ▶ At the end of Q2 2012, there were about 1.9 million mobile subscribers in Bahrain, representing a mobile penetration rate of 158%.
- ▶ Prepaid subscribers represented 80% of mobile subscribers at the end of Q2 2012.
- ▶ 5.1 billion minutes of domestic calls generated from mobiles in 2011, an increase of 35% since 2010.
- ▶ 261 domestic mobile minutes (excluding PPCC traffic) per month and per mobile subscriber in 2011 compared to 201 minutes in 2010 (↑30%).
- ▶ Monthly mobile ARPU increased slightly during 2011 to BD9.9 (BD9.6 in 2010). ARPU for prepaid was BD6.2 per month and BD26.5 per month for postpaid (excluding PPCC traffic).
- ▶ At the end of 2011, there were 209,779 BlackBerry subscribers, representing 12% of mobile subscribers.
- ▶ At the end of 2011, there were 43,700 mobile subscribers subscribing to an add-on data package, compared to 11,500 in 2010 (↑300%).

▶ **International calls**

- ▶ After impressive growth in the volume of international traffic during 2010, international minutes became stable in 2011.
- ▶ Average revenue per minute continued to drop, from 36 fils per minute in 2010 to 34 fils per minute in 2011 (and 226 fils per minute in 2005)
- ▶ International outgoing minutes originated on mobile represented 92% of total international outgoing minutes in 2011.
- ▶ During 2011, 84% of total international minutes were made to South Asian countries, while only 56% of international revenues were generated from calls to South Asian countries.
- ▶ Proportion of PPCC mobile originated international traffic dropped from 40% in 2010 to 25% in 2011, due to increasing competition from direct dial services.



Key market trends and observations - 3

▶ **Internet services**

- ▶ At the end of Q2 2012, there were approximately 413,000 internet subscribers in Bahrain, all of whom were broadband subscribers.
- ▶ In Q2 2012 broadband penetration in Bahrain was 34%.
- ▶ The number of broadband subscribers on plans with an advertised speed in excess of 2Mbps increased from 22% in 2010 to 53% in 2011.
- ▶ Mobile broadband subscriptions continue to grow rapidly and represented 60% of the broadband customer base in Q2 2012.
- ▶ The number of dongle and data SIM only grew from about 38,000 in 2010 to about 83,000 in 2011.



TRA highlights during 2012

▶ **Orders**

During 2012, TRA issued Orders relating to the following:

- ▶ Radio Frequency Interference by Menatelecom and Zain into the Territory of the Kingdom of Saudi Arabia (26 April 2012);
- ▶ Batelco's Reference Offer setting the charges for regulated access and interconnection services (14 May 2012).

▶ **Determinations**

During 2012, TRA issued the following determinations and decisions:

- ▶ Decision on Batelco's Local MPLS Services (27 March 2012);
- ▶ Determination under Article 65(f) of the Telecommunications Law regarding Batelco's pricing of mobile originated international calls (28 November 2012);
- ▶ Determination under Article 65(f) of the Telecommunications Law regarding Viva's pricing of mobile originated international calls (28 November 2012).

▶ **Regulations**

During 2012, TRA issued a Regulation on the following:

- ▶ Wholesale International Inbound Telecommunications Services (27 September 2012).

▶ **Consultations**

During 2012, TRA consulted on the following:

- ▶ Batelco's Wholesale Local Access Service (12 July 2012);
- ▶ Dominance in relation to the supply of wholesale international capacity (18 July 2012);
- ▶ Dominance in relation to the supply of termination services on Viva's mobile network (30 August 2012);
- ▶ The cost of capital for regulated telecommunications services (5 November 2012);
- ▶ The award of licenses for the delivery of mobile telecommunications services in the 900, 1800, 1900, 2100, and 2600 MHz bands (28 November 2012).



TRA highlights during 2011

▶ **Orders**

During 2011, TRA issued the following orders:

- ▶ Order No. 1 of 2011: TRA setting the fair, reasonable and non-discriminatory charges of Batelco's Reference Offer (25 January 2011).
- ▶ Local Loop Unbundling order: To Batelco setting the terms and conditions and the charges for Batelco's LLU and related additional services (05 May 2011).
- ▶ Emergency order No. 1 of 2011: To Moving Gulf Telecom W.L.L. to Cease and Desist All Telecommunications Services (21 April 2011).
- ▶ Emergency order no. 3 2011: Order for Viva Bahrain B.S.C closed to comply with regulation 2 of 2008 on the requirement to register details of prepaid mobile telecommunications services subscribers registration of prepaid telecommunications services (10 July 2011).

▶ **Determinations**

During 2011, TRA issued the following determinations and decisions:

- ▶ Determination to Change the Audit Standard Applicable to Batelco's Regulatory Accounts (21 July 2011).

▶ **Regulations**

- ▶ TRA issued Regulation on Commercial Bulk Messages (24 February 2011).

▶ **Consultations**

During 2011, TRA consulted on the following:

- ▶ 2nd Consultation on amending regulation 1 of 2008 (November 2011).
- ▶ Draft Order On Batelco's Reference Offer (November 2011).
- ▶ Individual Global Mobile Personal Communications by Satellite (September 2011).
- ▶ Bottom-up Cost Models (May 2011)
- ▶ Change of Audit Scope Applicable to Batelco's Regulatory Accounts (March 2011)



Services offered by active operators

Operator Name	National Fixed	International Calls	Mobile	Internet	Leased line	Other data service ¹
2Connect	✓	✓		✓	✓	✓
Ascentech telecoms		✓		✓		
Batelco	✓	✓	✓	✓	✓	✓
BT Solutions LTD					✓	✓
Business Communication Networks		✓				
Elephant Talk		✓				
EQUANT EGN BV						✓
Etisalcom	✓	✓		✓	✓	✓
Greenisis (Bahrain Broadband)				✓		
Kalaam telecoms	✓	✓		✓	✓	
Kulacom Communications S.P.C.				✓		
Light Speed	✓	✓		✓	✓	✓
Mena telecoms	✓	✓		✓	✓	
Moving Gulf		✓				
Northstar		✓		✓		
Nuetel Communications	✓	✓		✓	✓	
Orbit				✓		
Rapid telecoms	✓	✓		✓	✓	
Rawabi telecoms & Software	✓	✓		✓	✓	
Viacloud		✓				
VIVA		✓	✓	✓	✓	✓
Zain (Bahrain)	✓	✓	✓	✓		

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



Main telecoms indicators

Indicator	2006	2007	2008	2009	2010	2011	Q2 2012	Compound Annual Growth Rate - CAGR 2006-2011
Fixed line services								
Number of fixed lines	194,196	203,541	220,386	237,621	227,353	248,479	254,027	5%
Fixed line penetration	20%	20%	20%	20%	18%	21%	21%	
Number of residential fixed lines	122,343	116,951	130,121	146,384	139,543	161,308	n/a	
Mobile services								
Prepaid subscribers	756,268	923,702	1,210,163	1,156,196	1,289,274	1,379,820	1,538,598	13%
Postpaid subscribers	151,165	192,277	230,619	245,778	278,471	313,830	376,745	16%
Total mobile subscribers	907,433	1,115,979	1,440,782	1,401,974	1,567,745	1,693,650	1,915,343	13%
Mobile penetration as a % of total population	94%	107%	130%	119%	127%	142%	158%	
Internet services								
Dial-up subscribers	21,466	6,425	4,508	3,480	0	0	0	-100%
Broadband subscribers	38,628	73,563	109,994	158,335	204,197	290,371	412,783	50%
Total Internet subscribers	60,094	79,988	114,502	161,815	204,197	290,371	412,783	37%
Internet penetration	6%	8%	10%	14%	17%	24%	34%	
Broadband penetration	4%	7%	10%	13%	17%	24%	34%	
Total international outgoing minutes (in million)	364	643	954	1,483	1,998	2,050		41%
Telecommunications revenues (BD in million)	253	285	303	338	360	406		10%
Number of employees in the telecom sector	1,942	2,381	2,469	2,504	2,584	2,708		7%

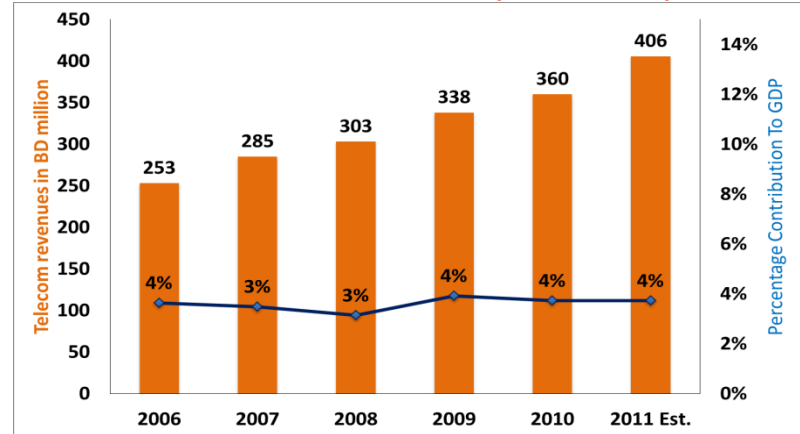
- Notes:
- 1- The number of subscribers refers to the end of the period.
 - 2- Number of broadband subscribers include fixed, mobile and wireless.
 - 3-Note: The drop in the number of mobile subscribers in 2009 is due to the prepaid SIM card registration campaign and compliance by Batelco with the ITU active prepaid subscribers' definition.
 - 4- 2011 revenues include handsets sales.



Revenues in the telecoms sector

- ▶ Telecom revenues reached BD 406 million in 2011.
- ▶ 10% compound annual growth rate between 2006 and 2011.
- ▶ Mobile services revenues account for nearly half of the telecoms retail services revenue.
- ▶ telecoms revenues contribute 4% to GDP.

Growth in telecoms sector revenue (2006 – 2011)



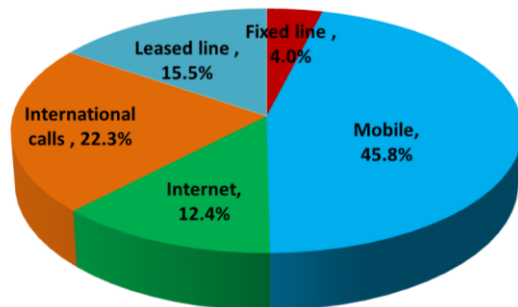
Source: CIO, Annual gross turnover of licensees and TRA analysis.

Notes:

- 2011 Revenue including devices sales.

- Percentage contribution to GDP has been revised due to CIO revision of GDP base year.

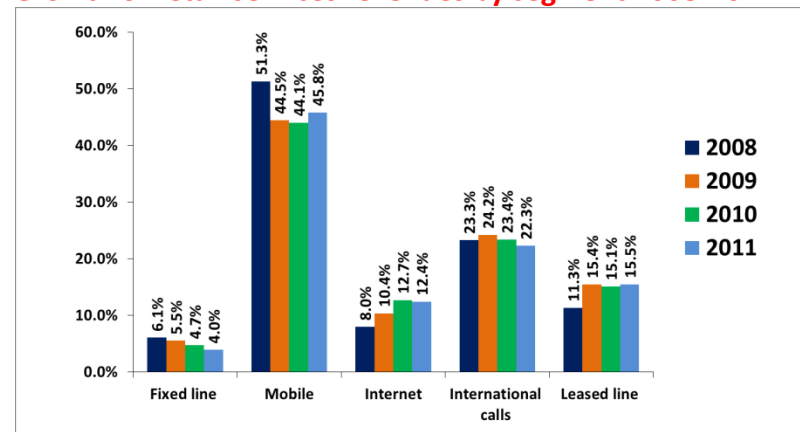
Break down of retail services revenue in 2011



Source: TRA analysis

Note: Mobile and fixed services revenues do not include international calls revenue.

Growth of retail services revenues by segment 2008-2011



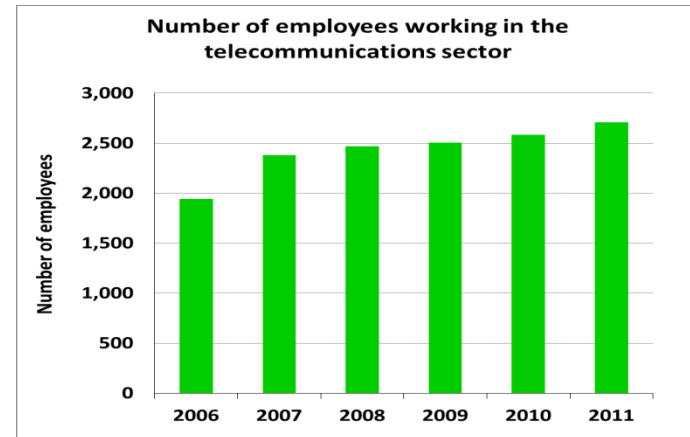
Source: TRA analysis



Employment in the telecoms sector

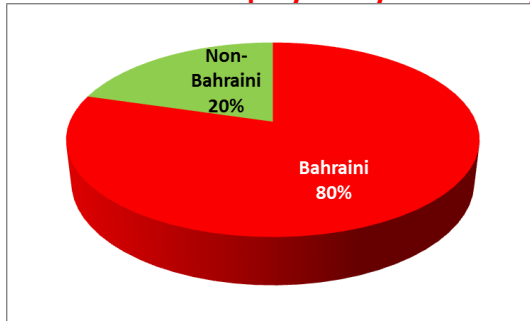
- ▶ About 2,700 employees are working in the telecommunications sector.
- ▶ 4.8% annual growth in the number of employees between 2010 and 2011.
- ▶ The sector achieves a high degree of Bahrainisation (80%).
- ▶ 28% of employees are female.

Growth in the number of employees in the telecommunications sector



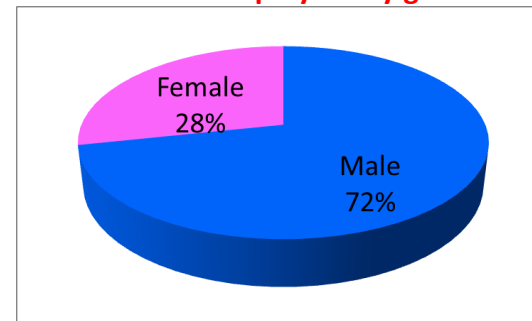
Source: TRA analysis

Distribution of employees by nationality



Source: TRA analysis

Distribution of employees by gender



Source: TRA analysis



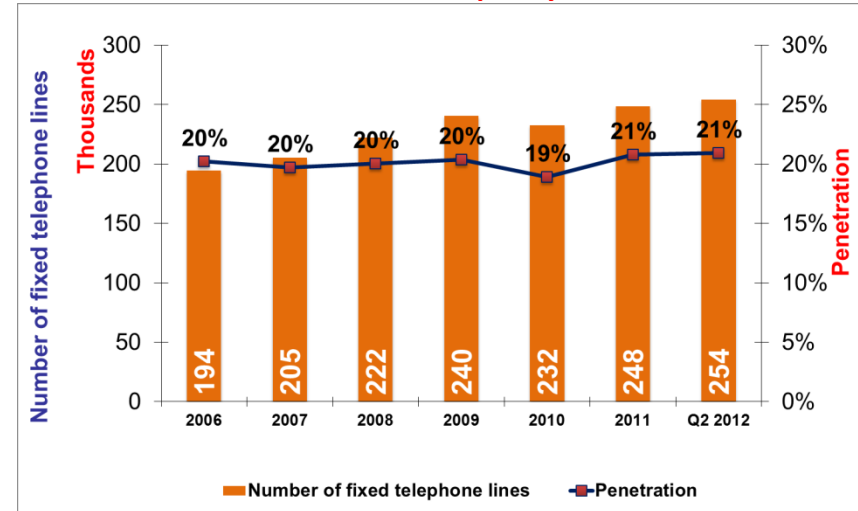
Fixed telephony services

- ▶ By the end of Q2 2012, there were approximately 254,000 fixed lines.
- ▶ Fixed wireless services as a proportion of total fixed lines has increased from less than 1% in 2007 to about 33% in Q2 2012 due to the offers of Menatelecom and Zain.
- ▶ By the end of 2011 there were 1,206 Basic rate ISDN and 838 Primary rate ISDN services.
- ▶ Including the number of ISDN voice-channel equivalents* in the total number of fixed lines the fixed line penetration rate was 23% in Q2 2012.

Note:

* Basic-rate voice-channel equivalents is the number of basic-rate ISDN subscriptions multiplied by 2, and primary-rate voice-channel equivalents is the number of primary-rate ISDN subscriptions multiplied by 30.

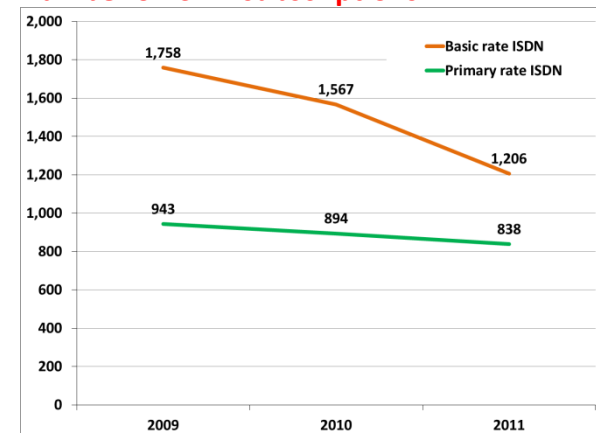
Growth in the number of fixed telephony lines



Source: TRA analysis

Number of fixed lines including: PSTN, Fixed wireless and voice-over-IP (VoIP).
June 2012 penetration is estimated.

Number of ISDN subscriptions

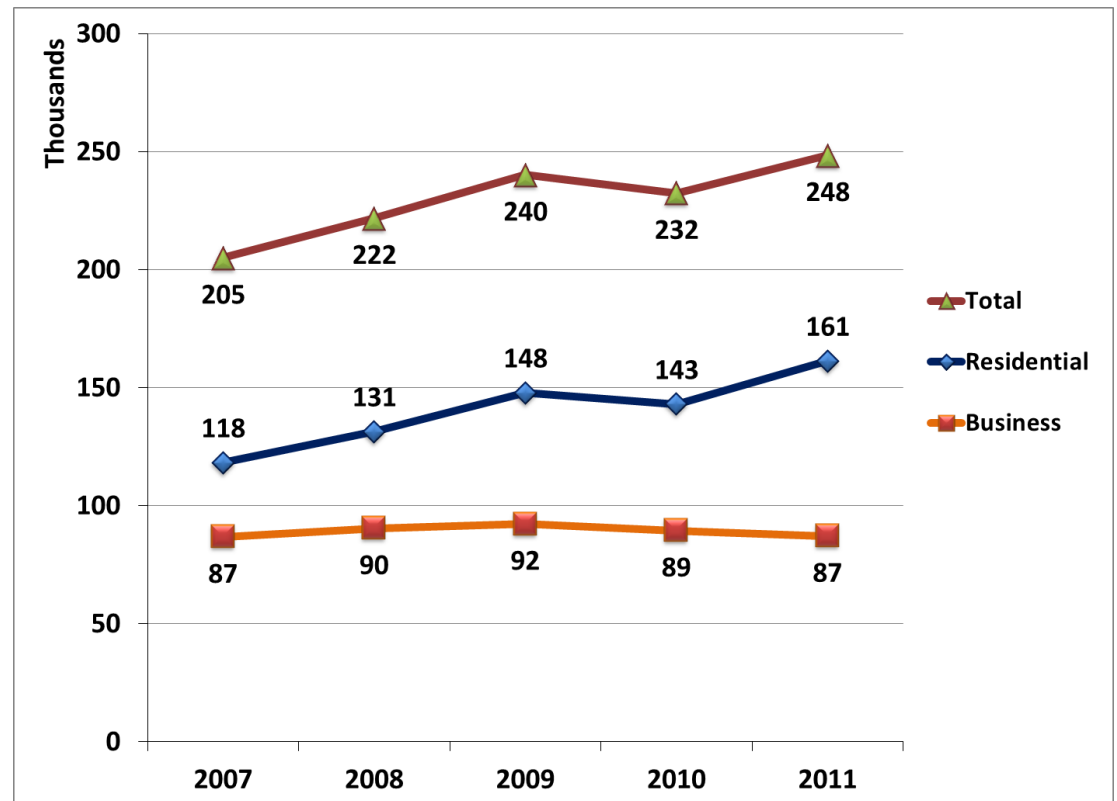


Source: TRA analysis



Number of fixed telephony lines by customer type

- ▶ The increase in residential fixed lines during 2011 was due to an increase in residential fixed wireless service.
- ▶ The fixed wireless operators started offering bundles of telephony and broadband in 2011.



Source: TRA analysis

Number of fixed lines including: PSTN, Fixed wireless and voice-over-IP (VoIP).



Fixed line outgoing minutes

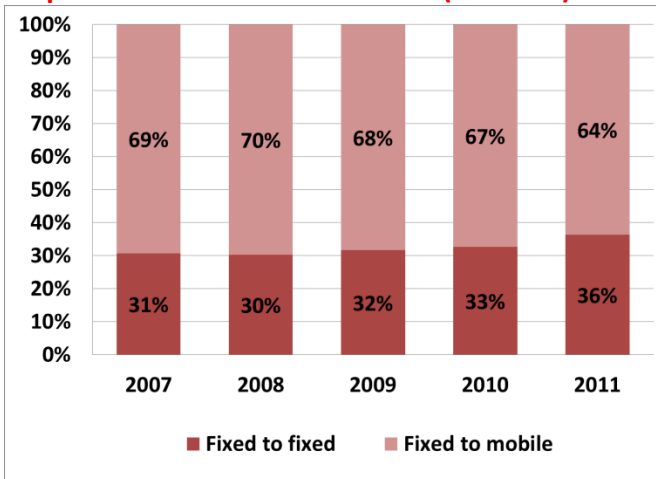
- ▶ Fixed telephony national traffic decreased by 27% between 2010 and 2011 (compared to 10% between 2009 and 2010) due to substitution towards mobile.
- ▶ 64% of national traffic originated from fixed lines are fixed-to-mobile calls.
- ▶ 28% reduction in average national monthly minutes per residential line from 2010 to 2011.

Fixed lines national outgoing minutes (volume)

Yearly national outgoing minutes In million	2007	2008	2009	2010	2011	Growth 2010 - 2011
Fixed to fixed	299	310	319	297	241	-19%
Fixed to mobile	674	712	690	612	421	-31%
Total	973	1,022	1,009	909	662	-27%

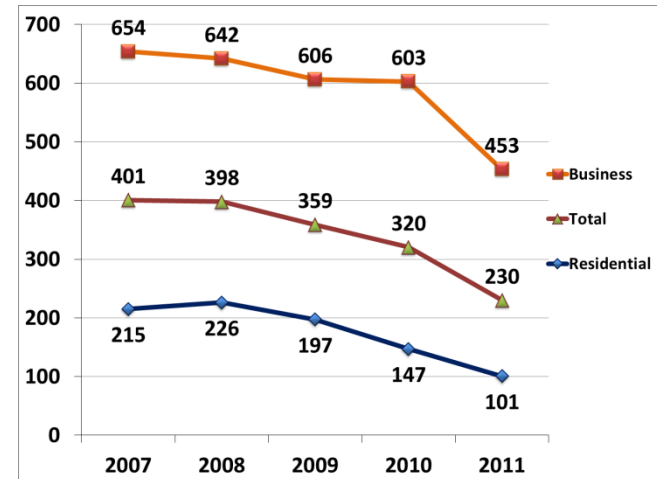
Source: TRA analysis

Proportion of fixed national calls (Minutes)



Source: TRA analysis

Average monthly national outgoing minutes per line



Source: TRA analysis



Fixed line service revenue

Fixed line revenue

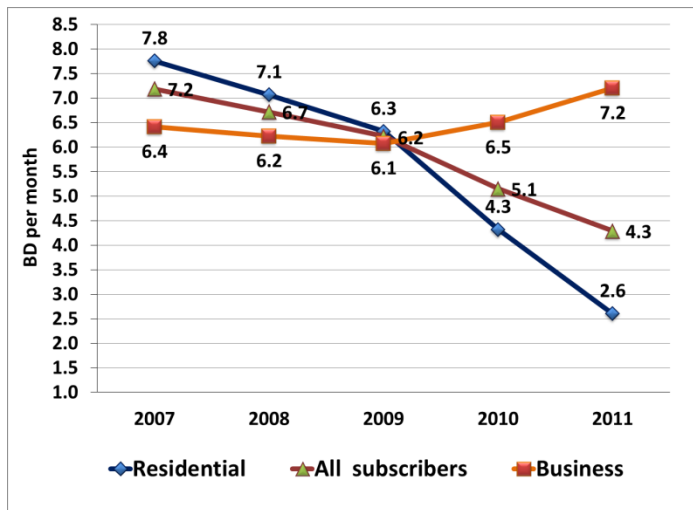
BD in million	2007	2008	2009	2010	2011	Growth 2010-2011
Residential	10.8	10.5	10.7	7.6	4.7	-38%
Non-residential	6.6	6.6	6.8	7.0	7.5	8%
Total	17.4	17.1	17.5	14.6	12.2	-16%

Source: TRA analysis

Note: Revenue include national calls revenue, monthly rental and subscription fees.

- ▶ Fixed line revenues dropped by 16% between 2010 and 2011. The main driver is the reduction in the revenues earned from residential fixed telephony services, as residential customers switched to mobile services.

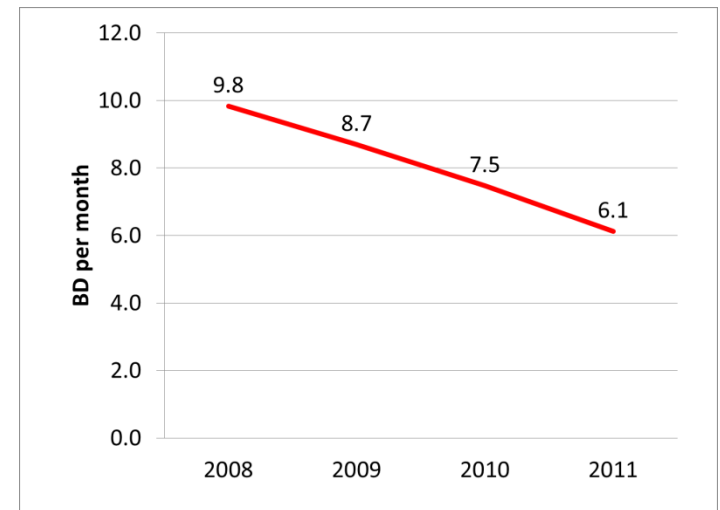
Average revenue per fixed line user (ARPU) – national calls only



Source: TRA analysis

Note: Revenue includes national calls revenue, monthly rental and subscription fees.

Average revenue per fixed line user (ARPU) – including international calls For all customers



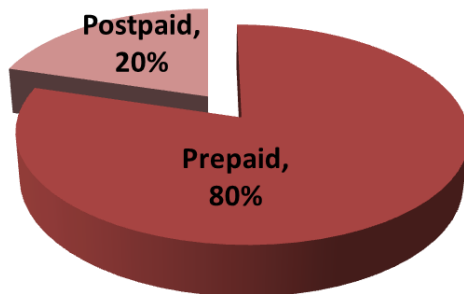
Source: TRA analysis



Mobile services

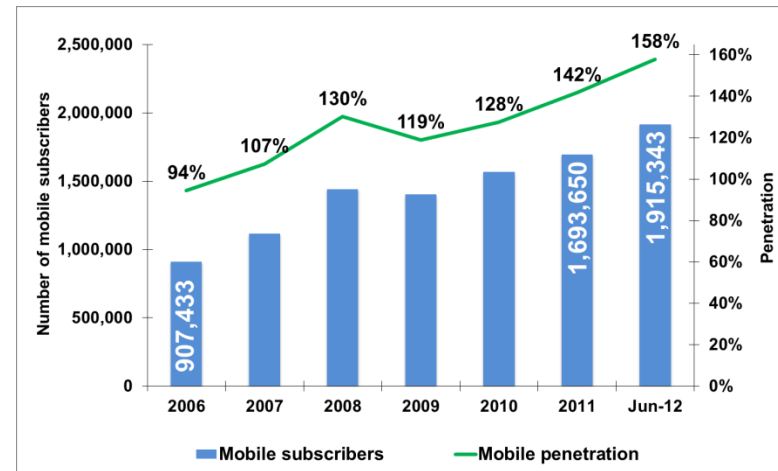
- ▶ At the end of Q2 2012 there were about 1.91 million mobile subscribers in Bahrain.
- ▶ In Q2 2012 mobile penetration in Bahrain was 158%.
- ▶ The mobile market in Bahrain remains predominantly prepaid. Prepaid subscribers represented 80% of mobile subscribers at the end of Q2 2012.

Proportion of prepaid and postpaid subscribers



Source: TRA analysis

Growth in the number of mobile subscribers



Source: TRA analysis

Note:

- 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.
- Batelco has revised the number of prepaid mobile subscribers starting from Jan 2012 due to missing subscribers in the previous reports.
- June 2012 penetration is estimated.

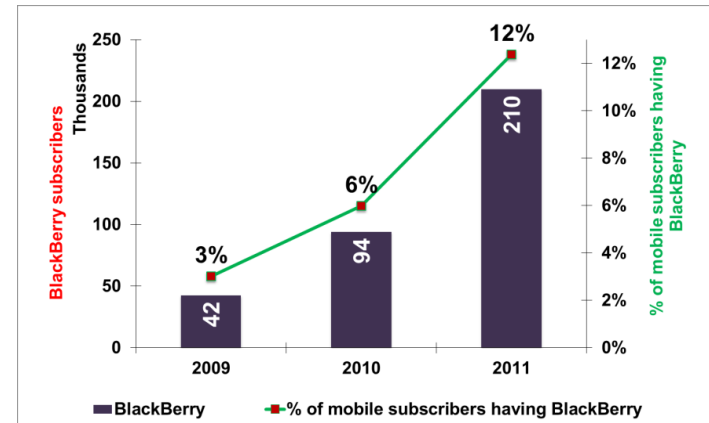
Prepaid mobile subscriptions: Refers to the total number of mobile-cellular telephone subscriptions that use prepaid refills. These are subscriptions where, instead of paying an ongoing monthly fee, users purchase blocks of usage time. Only active subscriptions should be included (those used at least once in the last three months for making or receiving a call or carrying out a non-voice activity such as sending or reading an SMS or accessing the Internet).



BlackBerry and mobile data add-on subscribers

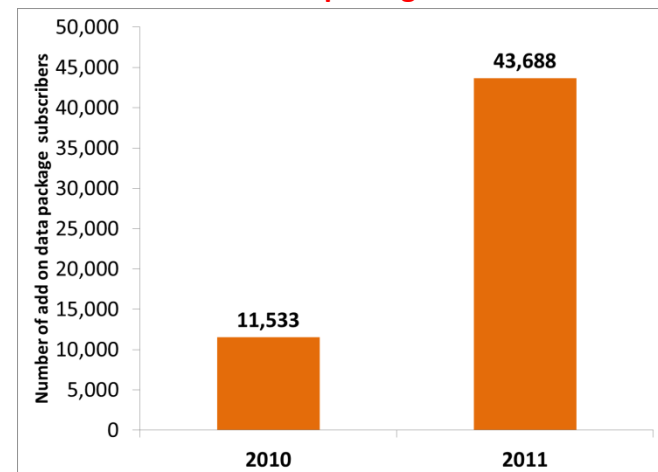
- ▶ At the end of 2011, there were 210,000 BlackBerry subscribers, representing 12.5% of mobile subscribers.
- ▶ 123% growth in BlackBerry subscribers between 2010 and 2011.
- ▶ At the end of 2011, there were about 43,700 mobile subscribers subscribing to add-on data subscribers compared to 11,500 in 2010.

Growth in BlackBerry subscribers



Source: TRA analysis

Growth in add on-data packages subscribers



Source: TRA analysis



Mobile traffic

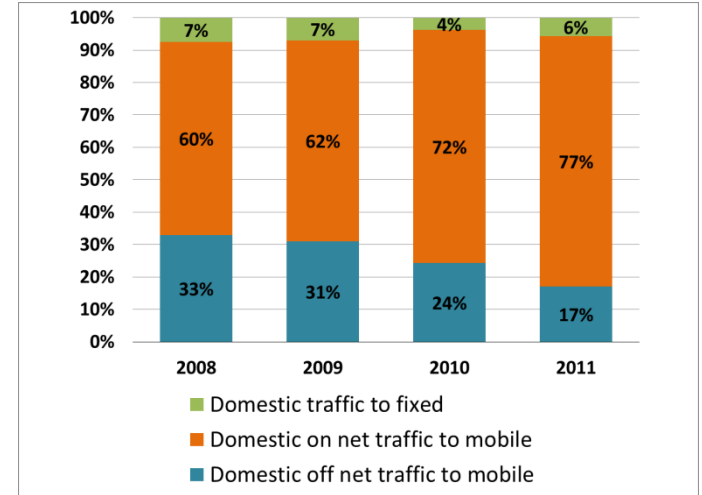
Mobile outgoing minutes (volume)

Mobile outgoing minutes (Domestic only, in millions)	2008	2009	2010	2011	Growth 2010 - 2011
From prepaid	1,081	1,235	2,730	3,904	43%
From postpaid	753	783	1,015	1,152	14%
Total	1,834	2,018	3,745	5,056	35%

Source: TRA analysis

- ▶ 35% growth in domestic mobile originated traffic between 2010 and 2011.
- ▶ Most domestic mobile traffic originates from prepaid subscribers (77%).
- ▶ Domestic prepaid mobile outgoing minutes grew by 43% between 2010 and 2011.
- ▶ In 2011, 77% of domestic mobile originated traffic was on-net traffic to mobile.
- ▶ Number of SMS dropped by 42% from 2010 to 2011 mainly due to the increase in Blackberry service and mobile data services.

Distribution of domestic mobile outgoing minutes



Source: TRA analysis

Number of SMS's

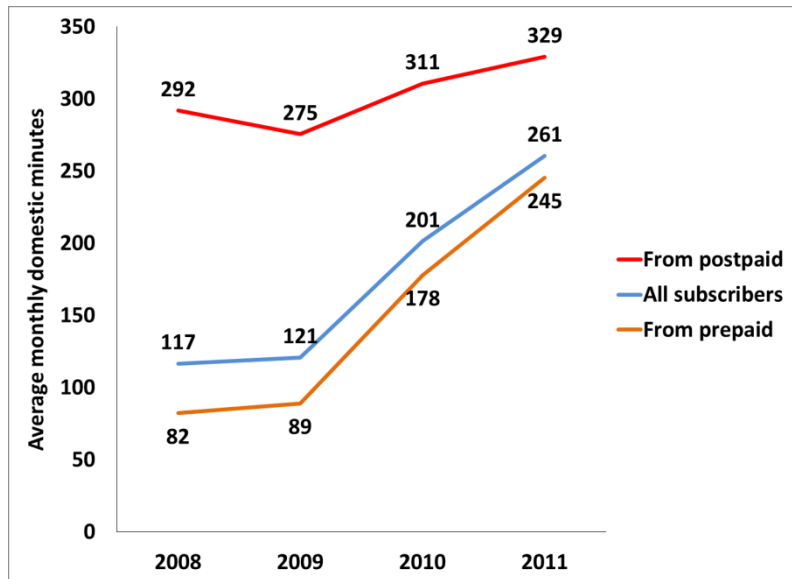
Total SMS (millions)	2008	2009	2010	2011	Growth 2010 - 2011
Prepaid	161.6	214.9	791.3	417.3	-47%
Postpaid	108.9	146.6	202.5	155.9	-23%
Total	270.5	361.5	993.8	573.2	-42%

Source: TRA analysis



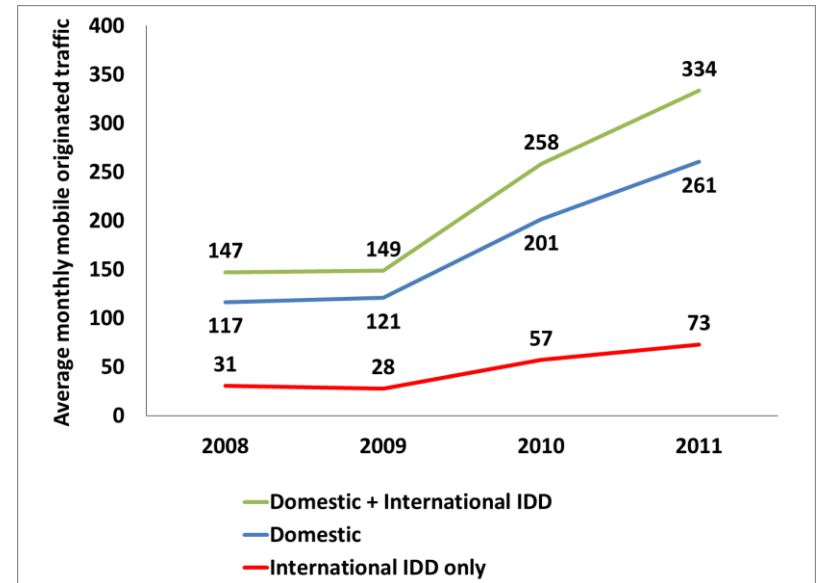
Average monthly outgoing minutes

Average monthly outgoing minutes per subscriber
(Domestic traffic only)



Source: TRA analysis

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



Source: TRA analysis

- ▶ 38% growth in the average monthly minutes for domestic calls between 2010 and 2011 for prepaid subscribers.
- ▶ 28% growth in the average monthly minutes for international direct dial traffic between 2010 and 2011.



Mobile revenue

Mobile revenue

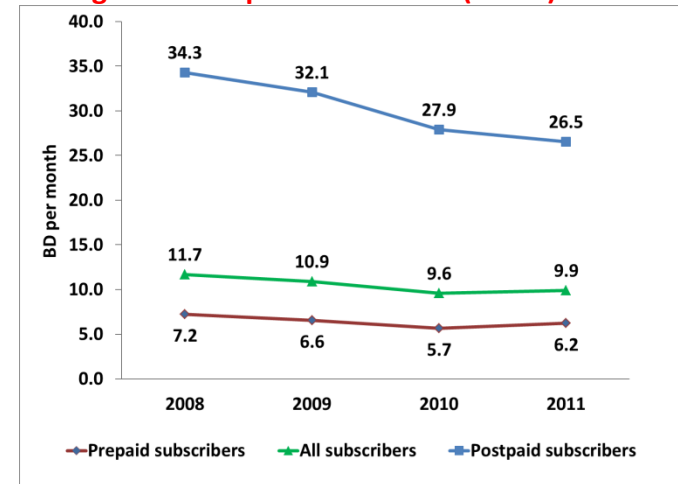
Revenue (BD in millions)	2007	2008	2009	2010	2011	Growth 2010 - 2011
Prepaid	65.9	95.3	90.9	86.9	99	14%
Postpaid	58.8	88.4	91.2	91.2	92.9	2%
Total	124.7	183.7	182.1	178.1	191.9	8%

Source: TRA analysis

Note: Revenues including connection charges, monthly subscription fees and usage charges (including international direct dial usage) .

- ▶ While traffic grew significantly, mobile revenues increased by mostly in 2011 (+8%). This indicates competitive pressures on prices.

Average revenue per mobile user (ARPU)



Source: TRA analysis

Note:

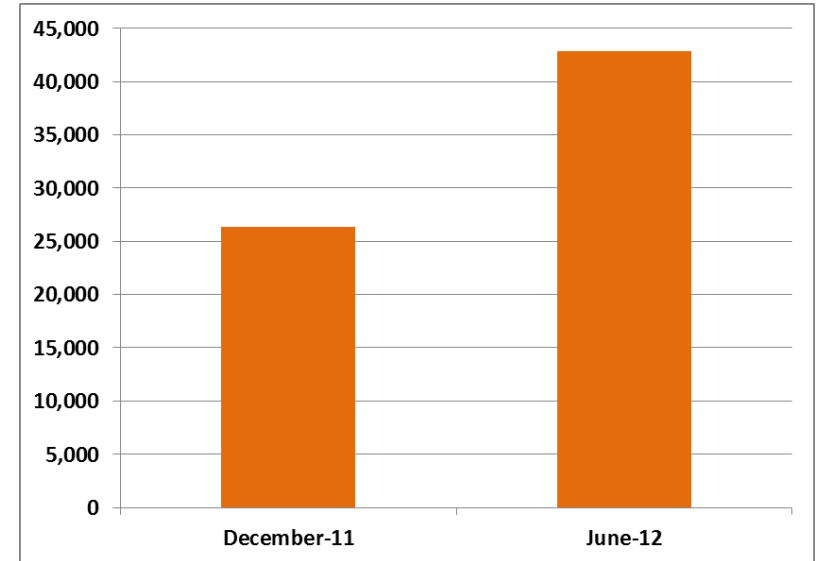
- Revenues including connection charges , monthly subscription fees and usage charges (including international direct dial usage only) .
- All subscribers ARPU's are weighted averages.



Mobile Number Portability

- ▶ Since the successful introduction of number portability in July 2011, about 43,000 mobile numbers have been ported in one year.
- ▶ This represents close to 2.2% of the mobile customers' base.
- ▶ 63% growth in the number ported between Dec 2011 and Jun 2012.

Volume of mobile number ported

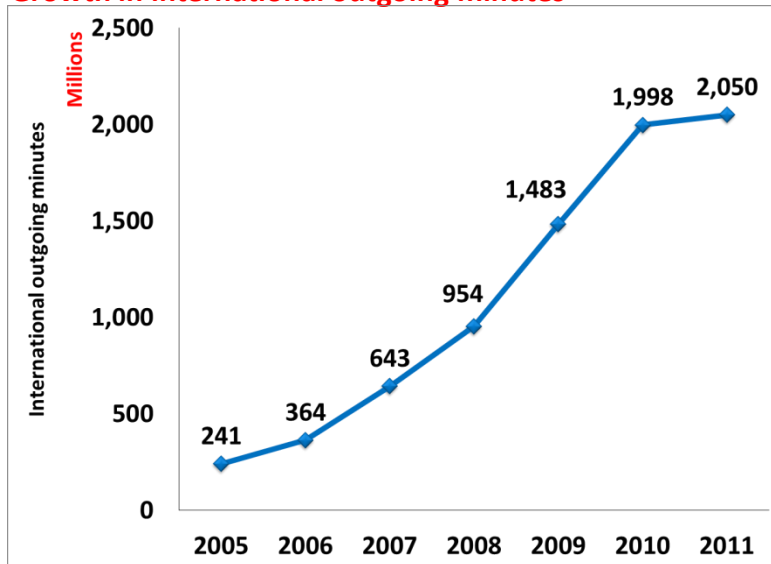


Source: TRA analysis



International Outgoing minutes

Growth in international outgoing minutes



Source: TRA analysis

- ▶ The strong growth in international outgoing traffic in the period up to 2010 moderated in 2011, with the volume of minutes increasing by just 2% during 2011. This reflects a stabilization of international call prices at lower levels following steeper reductions prior to 2011.
- ▶ 4% drop in international calls revenue between 2010 and 2011.

International outgoing minutes

Minutes (in millions)	2005	2006	2007	2008	2009	2010	2011	Growth 2010 - 2011
GCC ¹	70.00	93.10	109.00	106.00	131.00	193.00	108.30	-43.9%
Zone 2	95.00	167.00	400.00	686.50	1,128.00	1,570.00	1,713.80	9.1%
Zone 3	30.00	40.30	59.00	53.00	83.30	84.00	53.30	-36.3%
Zone 4	45.30	63.00	74.10	108.30	140.70	151.00	174.60	16.0%
Total	240.30	363.40	642.10	953.80	1,483.00	1,998.00	2,050.00	2.6%

Source: TRA analysis

International calls revenue

Revenues (BD in millions)	2005	2006	2007	2008	2009	2010	2011	Growth 2010 - 2011
GCC	12.10	15.40	16.60	13.93	18.30	12.70	11.40	-10%
Zone 2	23.20	19.70	27.60	31.56	36.50	38.80	38.80	0%
Zone 3	7.20	7.30	7.40	6.36	7.80	6.70	5.10	-23%
Zone 4	11.90	14.30	11.50	13.13	13.20	13.90	13.90	0%
Total	54.40	56.70	63.10	65.00	75.80	72.10	69.20	-4%

Source: TRA analysis

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).

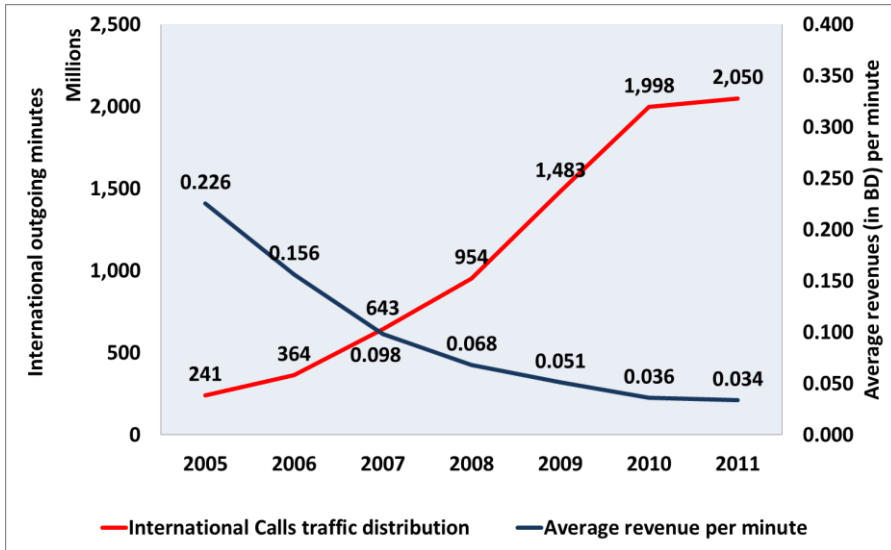
Zone 3: Calls to other major destinations (Australia, Canada, France, Germany, Greece, Italy, Iran, New Zealand, Thailand, UK, USA and Yemen).

Zone 4: Calls to all other international destinations.



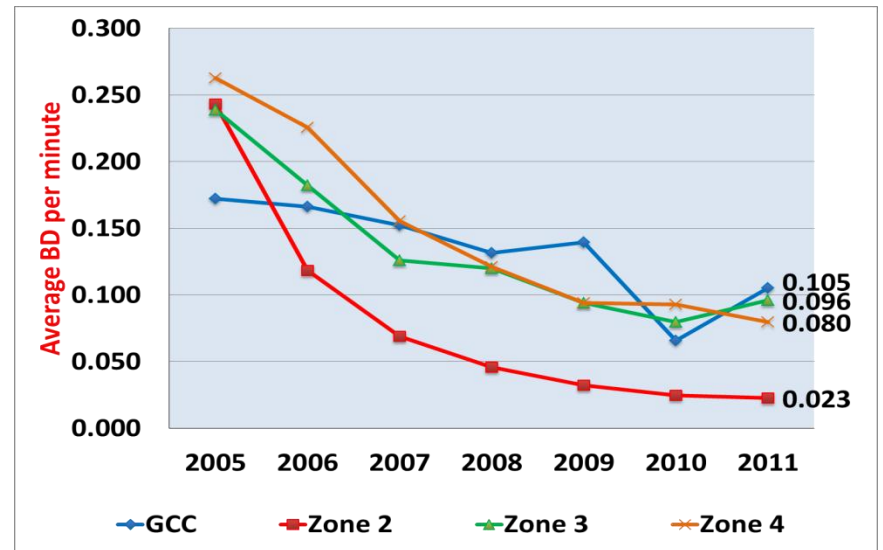
Price elasticity

Drop in average revenue per minute vs. growth in traffic



Source: TRA analysis

Average revenue per minute by zone



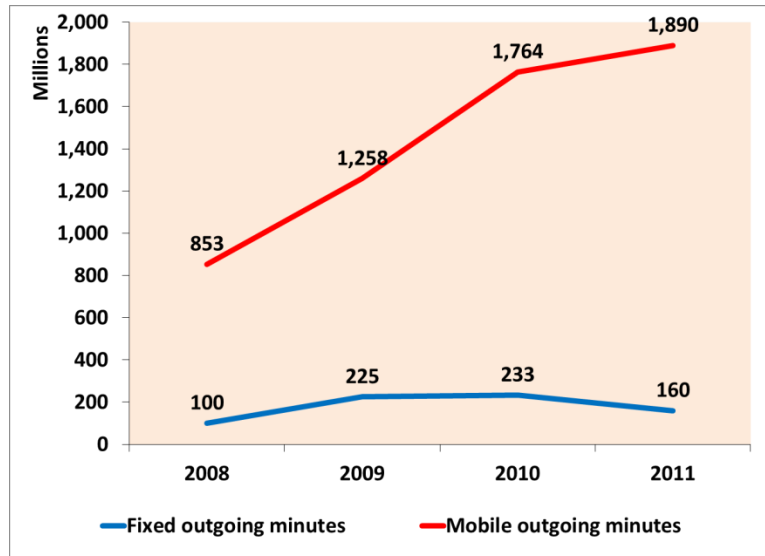
Source: TRA analysis

- ▶ 85% drop in the average revenue per minute in the last six years.
- ▶ 91% drop in the average revenue per minute in the last six years for Zone 2.



International Outgoing minutes

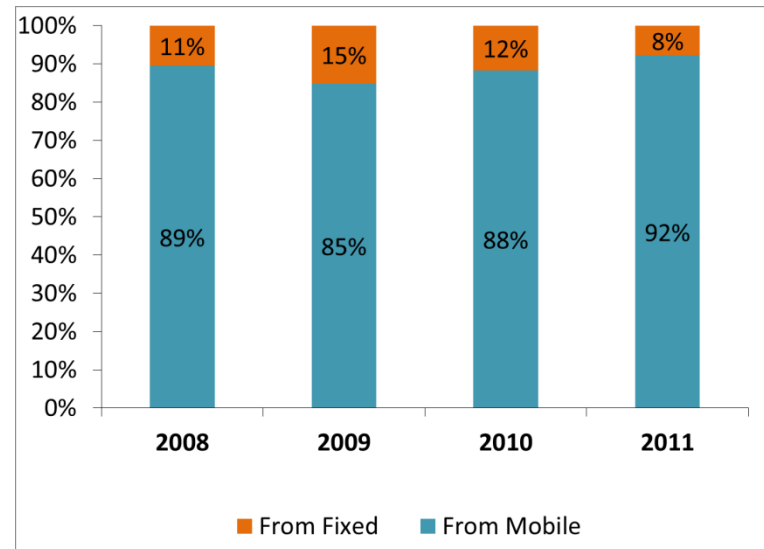
International outgoing minutes originated on mobile¹ grew by 7.1% between 2010 and 2011 while the minutes originated on fixed fell by 31%.



Source: TRA analysis

¹ Minutes including prepaid calling card traffic.

International outgoing minutes originated on mobile represented 92% of the total international outgoing minutes in 2011.

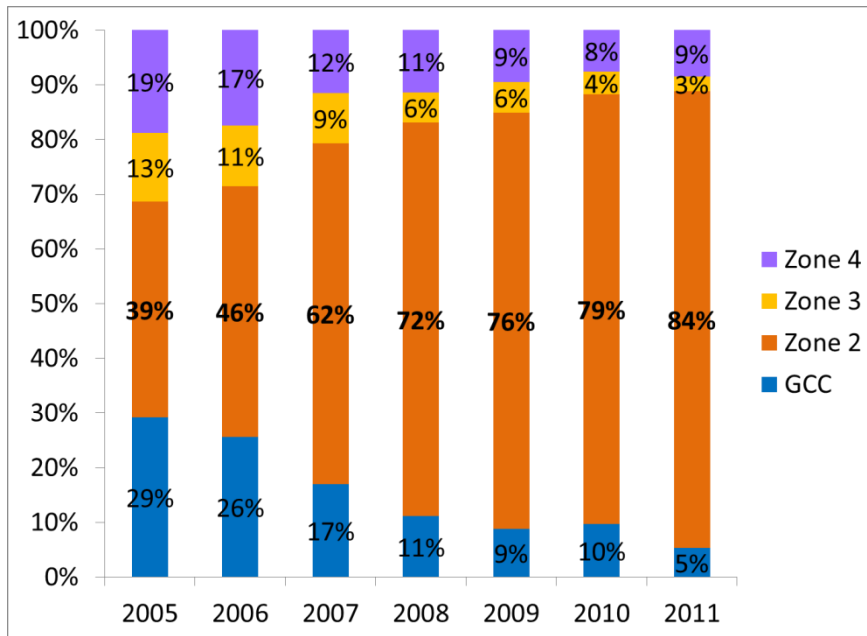


Source: TRA analysis



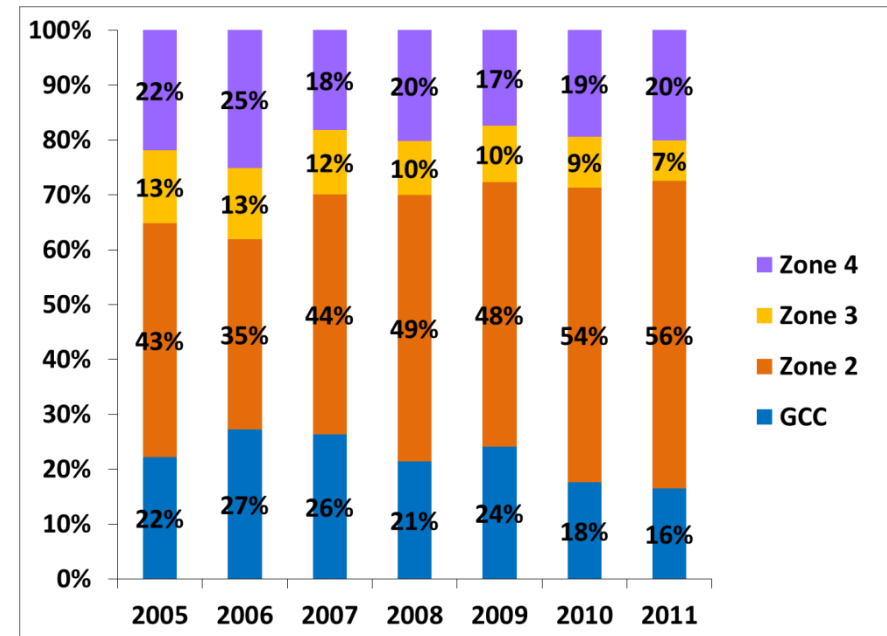
International traffic vs. revenues

84% of total international calls minutes were made to South Asian countries in 2011



Source: TRA analysis

56% of international revenues were generated from calls to South Asian countries in 2011

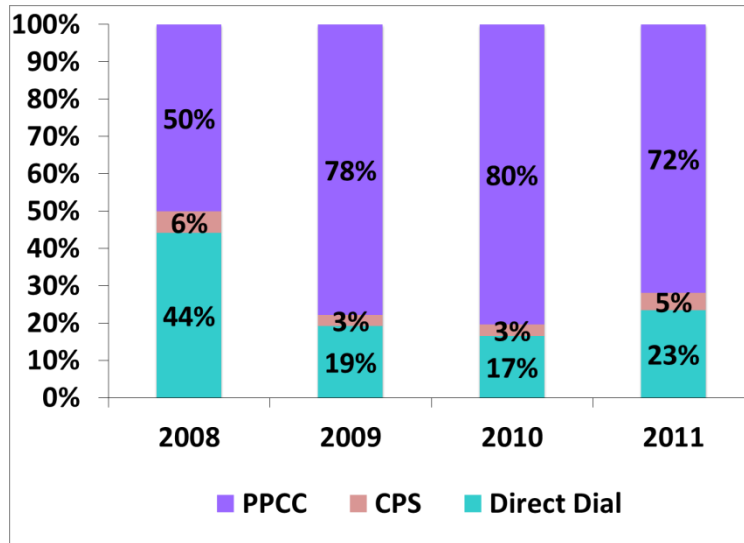


Source: TRA analysis



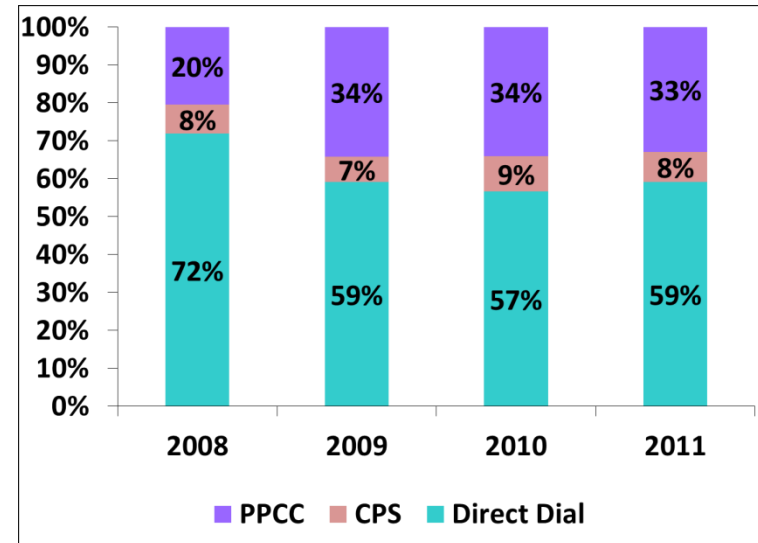
Distribution of international outgoing minutes/revenues by access type - Fixed telephony

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



Source: TRA analysis

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



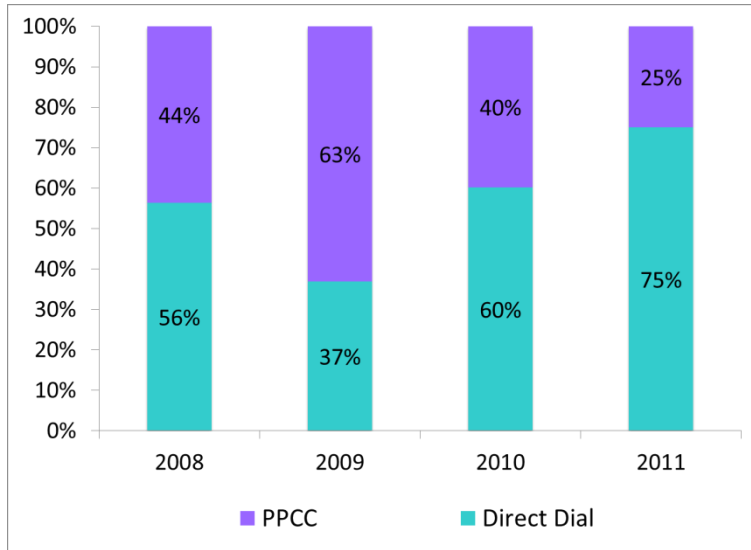
Source: TRA analysis

Although traffic originated from fixed lines using prepaid calling cards represented 72% of international fixed line traffic in 2011, it represented only 33% of revenues.



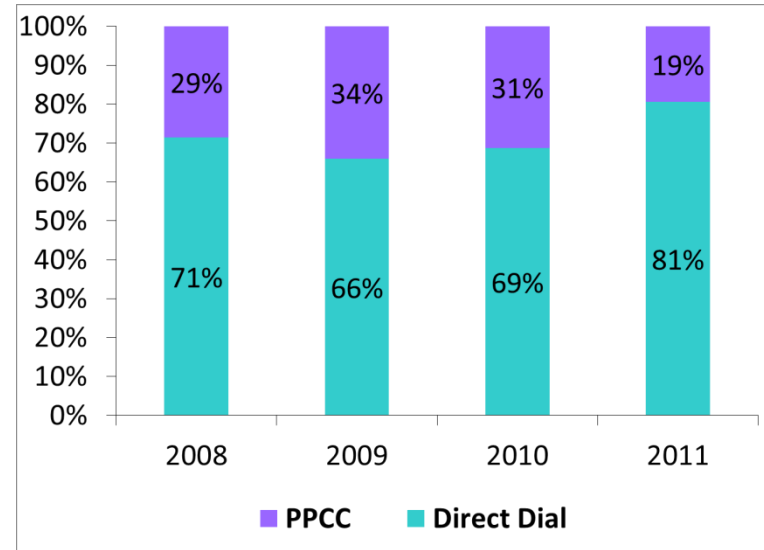
Distribution of international outgoing minutes/revenues by access type - Mobile

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



Source: TRA analysis

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

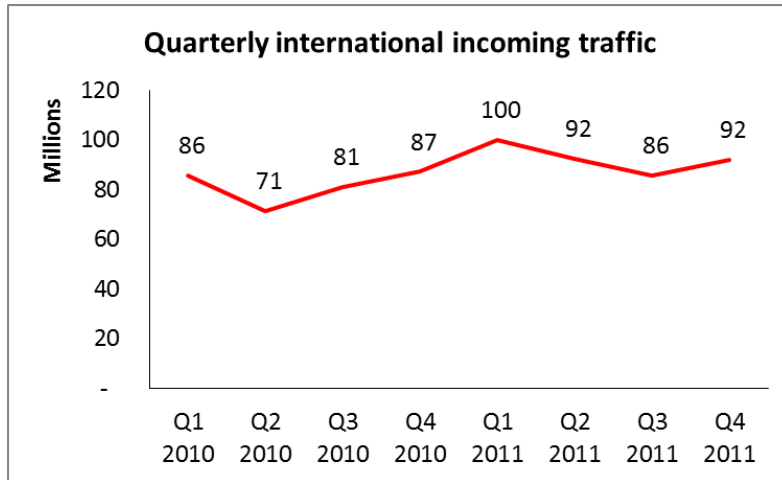


Source: TRA analysis

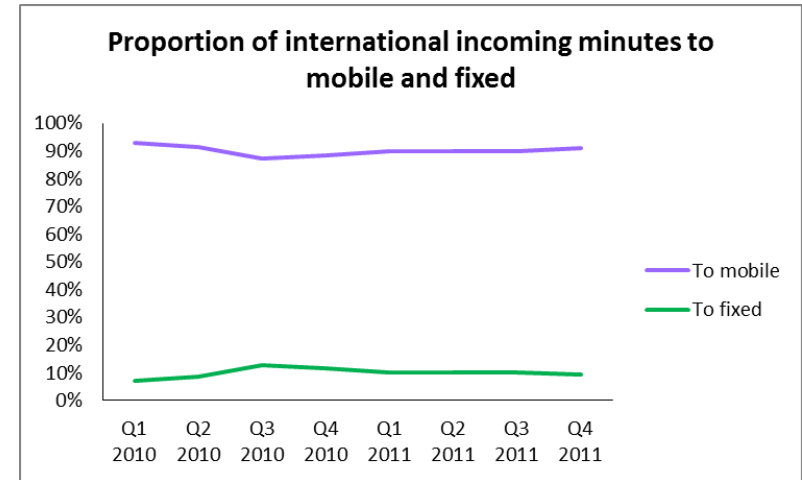
In 2011, international direct dial traffic originated from mobile represented 75% of the total traffic, up from 60% in 2010 and only 37% in 2009.



International incoming call minutes



Source: TRA analysis



Source: TRA analysis

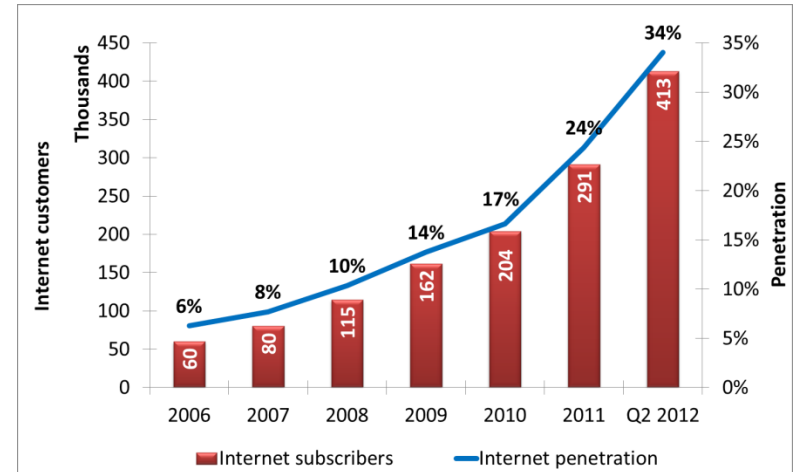
- ▶ In 2011, the total volume of international incoming minutes was 370 million minutes, compared to 325 million in 2010.
- ▶ About 90% of international incoming calls were made to mobile.



Internet subscribers

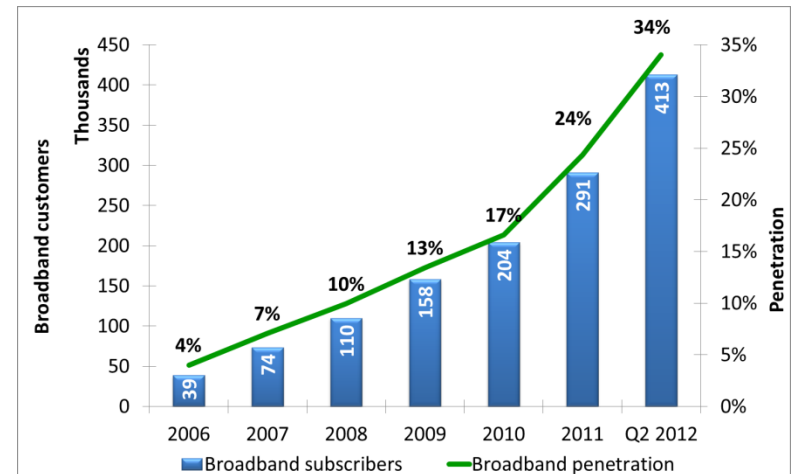
- ▶ At the end of Q2 2012, there were approximately 413,000 internet subscribers, all of whom were subscribing to broadband services.
- ▶ The number of broadband subscribers increased by 42% during the first six months of 2012 mainly due to the significant increase of mobile broadband.

Internet subscribers



Source: TRA analysis

Broadband subscribers



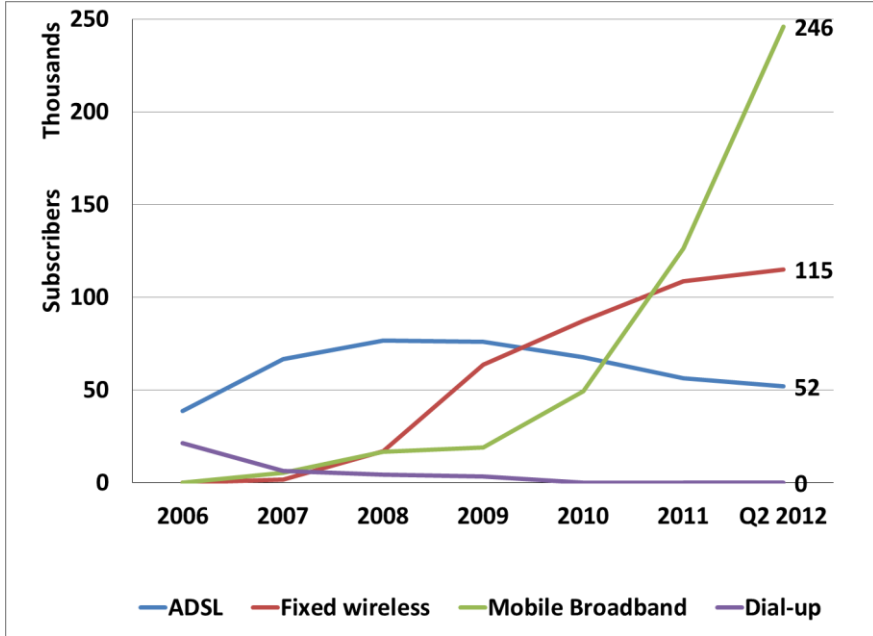
Source: TRA analysis

Note: The speed defined for broadband service is 256 Kbit/s



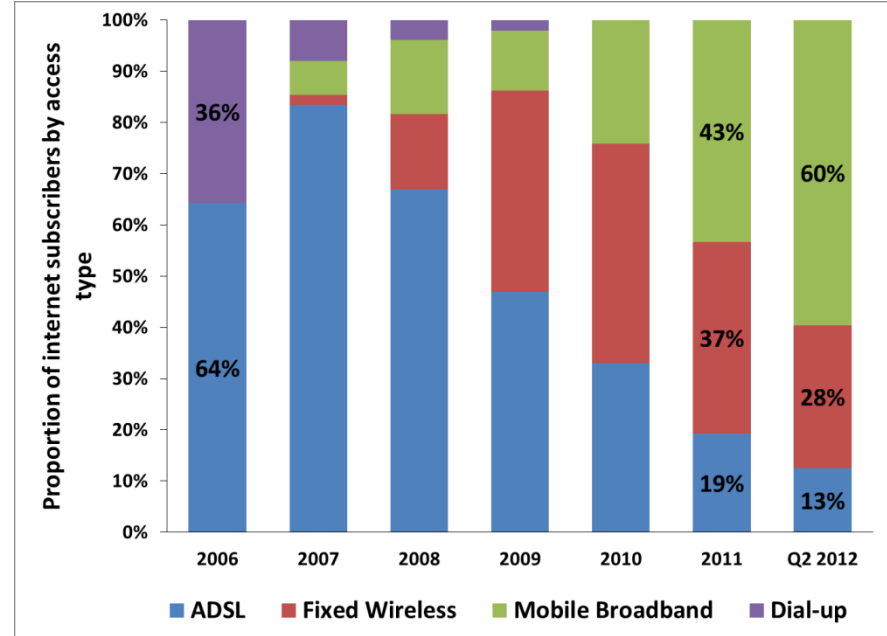
Internet subscribers

Number of internet subscribers by access type



Source: TRA analysis

Proportion of internet subscribers by access type



Source: TRA analysis

Note:

- Fixed wireless including: WiMax and Satellite; and
- Mobile broadband including add-on data and dedicated data subscribers.



Internet subscribers

Residential internet subscribers

	2006	2007	2008	2009	2010	2011
Dial up	18,175	3,752	1,683	1,715	0	0
Broadband subscribers	34,858	68,009	101,961	149,581	194,254	280,263
Total	53,033	71,761	103,644	151,296	194,254	280,263

Source: TRA analysis

Note: Mobile broadband included in the residential.

Business internet subscribers

	2006	2007	2008	2009	2010	2011
Dial up	3,291	2,673	2,335	1,765	0	0
Broadband subscribers	3,770	5,554	8,033	8,754	9,943	10,981
Total	7,061	8,227	10,368	10,519	9,943	10,981

Source: TRA analysis

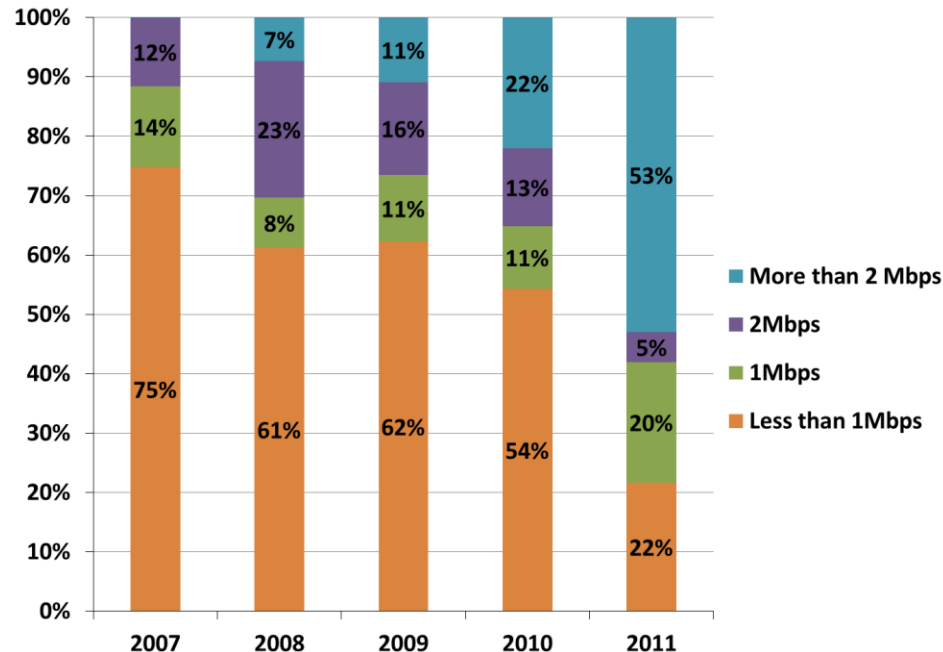
Note: Mobile broadband included in the residential.



Proportion of broadband subscribers by access speed

- ▶ Approximately 78% of broadband subscribers in 2011 were on plans with advertised speeds of 1Mbps and above.
- ▶ The proportion of subscribers on plans with advertised speeds speeds of 2Mbps and above increased from 35% in 2010 to 58% in 2011.

Proportion of broadband subscribers by access speed



Source: TRA analysis



Broadband revenue

- ▶ Although the number of broadband subscribers increased by 31% between 2010 and 2011, broadband revenues dropped by -1% due to reductions in broadband prices. Based on the 2011 Price Benchmarking Study of telecoms services in Arab countries, broadband prices in Bahrain have fallen by up to 40% between 2010 and 2011.
- ▶ The reduction in broadband prices resulted in a drop in ARPU by 27% for Business and 22% for Residential.

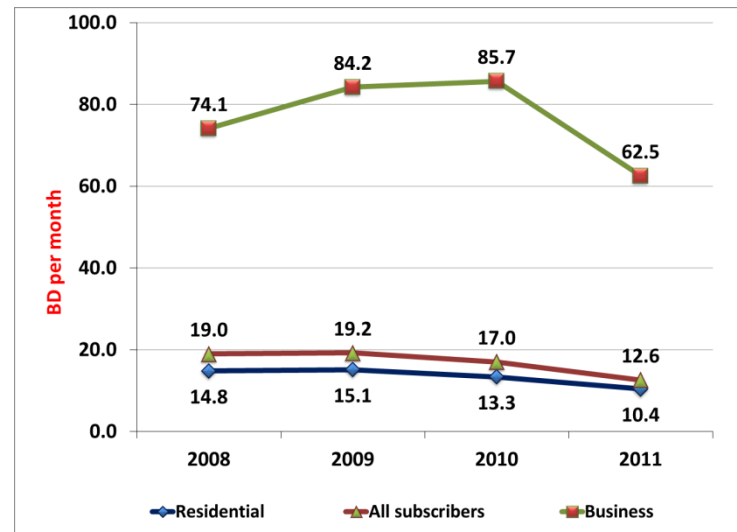
Broadband revenue*

Revenue (BD in million)	2008	2009	2010	2011	Growth 2010 – 2011
Residential	15.7	24	28.9	30.5	5%
Business	5.9	8.5	10.2	8.1	-18%
Total	21.6	32.5	39.1	38.6	-1%

Source: TRA analysis

* Include fixed and mobile broadband revenues

Average revenue per broadband user (ARPU)



Source: TRA analysis



Leased line services

Number of domestic leased lines

Leased line speed	2007	2008	2009	2010	2011
x < 64 kbps and less	227	365	235	110	114
64 kbps ≤ x < 512 kbps	508	1163	889	954	707
512 kbps ≤ x < 1024 kbps	140	181	188	286	308
1024 kbps ≤ x < 2048 kbps	104	149	193	233	313
2 Mbps ≤ x < 45 Mbps	124	496	637	794	993
45 Mbps ≤ x < 155 Mbps	2	27	33	48	57
155 Mbps ≤ x < 622 Mbps	0	0	1	1	1
x ≥ 622 Mbps	0	3	2	2	2
Total	1105	2384	2178	2428	2495

Source: TRA analysis

- ▶ The number of domestic leased lines increased slightly in 2011 (+3%), while the number of international leased lines dropped by -9%.

Number of International Leased Lines

Destinations	Speed	2007	2008	2009	2010	2011
Zone 1	Analogue and Speeds lower than 64Kbps	0	29	14	6	0
	x < 1 Mbps	133	146	126	113	101
	1Mbps ≤ x < 2 Mbps	6	4	9	5	7
	2 Mbps ≤ x < 45 Mbps	45	56	53	35	31
	45 Mbps ≤ x < 155 Mbps	7	10	9	10	13
	155 Mbps ≤ x < 622 Mbps	0	0	7	6	9
	x ≥ 622 Mbps	3	1	1	4	4
Total		194	246	219	179	165
Zone 2	Analogue and Speeds lower than 64Kbps	0	7	9	2	0
	x < 1 Mbps	15	14	19	13	12
	1Mbps ≤ x < 2 Mbps	1	2	0	0	1
	2 Mbps ≤ x < 45 Mbps	0	2	10	10	6
	45 Mbps ≤ x < 155 Mbps	1	0	0	0	0
	155 Mbps ≤ x < 622 Mbps	0	0	1	1	3
	x ≥ 622 Mbps	0	0	2	2	3
Total		17	25	41	28	25
Zone 3	Analogue and Speeds lower than 64Kbps	0	1	0	1	0
	x < 1 Mbps	20	18	35	44	38
	1Mbps ≤ x < 2 Mbps	1	0	0	1	1
	2 Mbps ≤ x < 45 Mbps	11	9	9	10	9
	45 Mbps ≤ x < 155 Mbps	3	2	3	2	4
	155 Mbps ≤ x < 622 Mbps	0	0	2	3	3
	x ≥ 622 Mbps	2	3	2	2	1
Total		37	33	51	63	56
Grand total		248	304	311	270	246

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

Source: TRA analysis

Note: 2009 has been revised.



Leased lines revenue

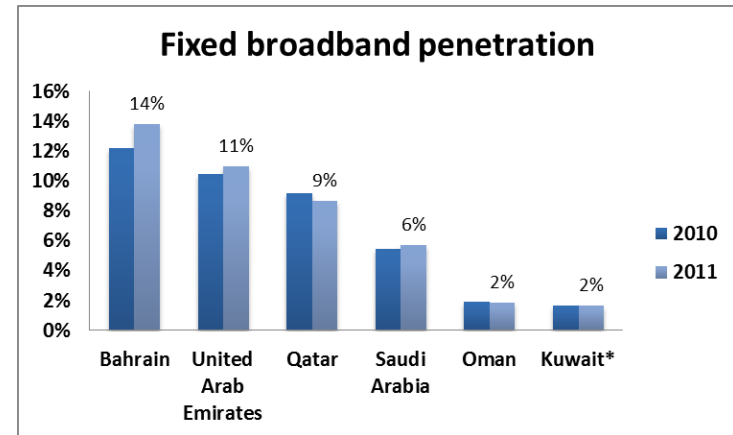
Revenue (BD in million)	2007	2008	2009	2010	2011
Domestic	3.86	8.82	12.30	14.4	16.8
International	14.40	20.40	33.67	29.6	27.9
Other data	5.45	2.70	2.56	2.5	4.0
Total	23.71	31.92	48.53	46.50	48.7

Source: TRA analysis

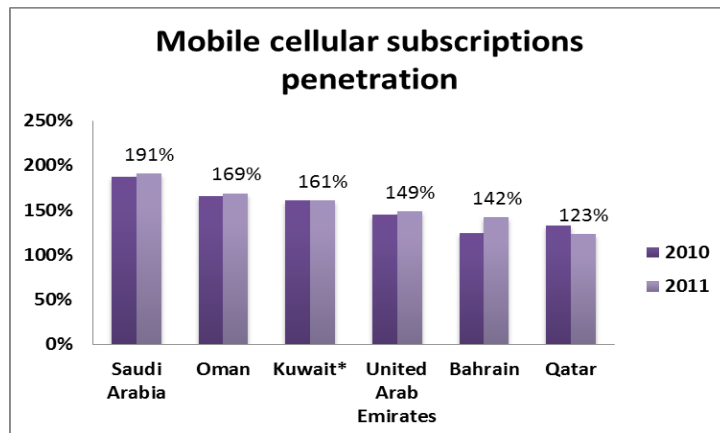


Benchmarking of telecoms service penetration rates with GCC countries

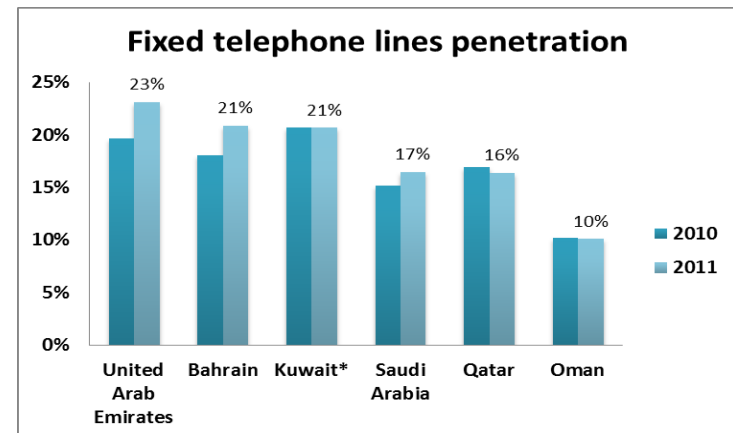
- ▶ Bahrain has the highest fixed (wired) broadband Penetration in the GCC.
- ▶ Bahrain compares well with other GCC countries in fixed telephony line penetration.



Source: International telecommunications Union
* Kuwait 2011 data is not available yet, the data used is for 2010.



Source: International Telecommunications Union and TRA analysis
* Kuwait 2011 data is not available yet, the data used is for 2010.



Source: International telecommunication Union
* Kuwait 2011 data is not available yet, the data used is for 2010.



Bahrain's ranking on global ICT related indices

▶ Bahrain compares well worldwide and regionally

Index	Organization/publisher	World Rank	World Rank	Arab Rank	GCC Rank
		Previous report	2012 report	2012 report	2012 report
ICT Development Index (IDI)	International Telecommunication Union (ITU)	45 (2011)	40	2	2
E-Government Readiness Index	United Nations	13 (2010)	36 ¹	2	2
The Networked Readiness Index	World Economic Forum	30 (2010-2011)	27	1	1
The Global Competitiveness Report	World Economic Forum	37 (2011)	37	6	6
Knowledge Economy Index	The World Bank	49 (2009-2010)	43	2	2
Global Innovation Index	Co-published by INSEAD and the World Intellectual Property Organization (WIPO)	46 (2011)	41	3	3

Note:

1 The main reasons for change in the ranking are the population change (from 807k in 2010 report to 1.2 in 2012 report) and other countries performance.

Sources:

<http://www.itu.int/ITU-D/ict/publications/idi/index.html>

http://www2.unpan.org/egovkb/global_reports/12report.htm

http://www3.weforum.org/docs/Global_IT_Report_2012.pdf

http://www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf

<http://siteresources.worldbank.org/INTUNIKAM/Resources/2012.pdf>

http://www.wipo.int/export/sites/www/freepublications/en/economics/gii/gii_2012.pdf



List of Acronyms

ADSL	Asymmetric Digital Subscriber Line
BD	Bahraini Dinar
CPS	Carrier Pre-Selection
GCC	Gulf Cooperation Council
IDD	International Direct Dial
ITU	International Telecommunication Union
Kb/s	Kilobit per second
Mb	Megabit
Mbps	Megabit per second
OLO	Other licensed operators
PPCC	Pre-Paid Calling Card
PSTN	Public Switched Telephone Network
PPP	Purchasing power parity
SMS	Short Message Service
TRA	Telecommunications Regulatory Authority



Definitions

Indicator	Definition
Fixed-telephone subscriptions	Fixed-telephone subscriptions refers to the sum of active number of analogue fixed-telephone lines, voice-over-IP (VoIP) subscriptions, fixed wireless local loop (WLL) subscriptions.
Mobile subscriptions	Mobile-cellular telephone subscriptions refers to the number of subscriptions to a public mobile-telephone service that provide access to the PSTN using cellular technology. The indicator includes (and is split into) the number of postpaid subscriptions, and the number of active prepaid accounts (i.e. that have been used during the last three months). The indicator applies to all mobile-cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private trunked mobile radio, telepoint, radio paging and telemetry services.
Prepaid mobile subscriptions	Refers to the total number of mobile-cellular telephone subscriptions that use prepaid refills. These are subscriptions where, instead of paying an ongoing monthly fee, users purchase blocks of usage time. Only active subscriptions should be included (those used at least once in the last three months for making or receiving a call or carrying out a non-voice activity such as sending or reading an SMS or accessing the Internet).
Mobile-broadband subscriptions	Active mobile-broadband subscriptions refers to the sum of standard mobile broadband and dedicated mobile broadband subscriptions to the public Internet. It covers actual subscribers, not potential subscribers, even though the latter may have broadband enabled-handsets. Standard mobile-broadband subscriptions: Refers to active mobile-cellular subscriptions with an advertised data speed of 256 kbit/s or greater that allow access to the greater Internet via HTTP and have been used to make a data connection using Internet protocol (IP) in the previous three months. Dedicated mobile-broadband subscriptions: Refers to subscriptions to dedicated data services (over a mobile network) that allow access to the greater Internet and that are purchased separately from voice services, either as a standalone service (e.g. using a data card such as a USB modem/dongle) or as an add-on data package to voice services that requires an additional subscription.