



Telecom Regulatory Authority of India

The Indian Telecom Services Performance Indicators July - September, 2016

New Delhi, India
30th December, 2016

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Table of Contents

Snapshot	i
Trends at a Glance	xi
Introduction	xiii
Chapter 1 : Subscription Data	1
Section A : Access Service - An Overview.....	2
Section B : Wireless Service	11
Section C : Wireline Service	20
Section D : Internet Service.....	27
Section E : Other Value Added Services - PMRTS & VSAT	37
Chapter 2 : Revenue and Usage	42
Section A: GSM Service.....	43
Section B: CDMA - Full Mobility Service.....	51
Chapter 3 : Financial Data of Telecom Service Sector	56
Chapter 4 : Quality of Service (QoS)	62
Section A: Quality of Service Performance of Wireless Service Providers.....	63
Section B: Quality of Service Performance of Wireline Service Providers.....	73
Section C: Quality of Service Performance of Broadband Service	76
Chapter 5 : Performance of Cable TV, DTH and Radio Broadcasting Services..	79
Annexures	87
Annexure 1.1: Licensed Cellular (GSM & CDMA) Service Providers	88
Annexure 1.2: Wireless Subscriber Base.....	89
Annexure 1.3: Wireline Subscriber Base	92
Annexure 1.4: Service Area and Operator wise details of PCOs	94
Annexure 1.5: Service Provider wise details of Village Public Telephones.....	97
Annexure 1.6: Internet Service Provider(ISP) wise Internet Subscriber base.....	99
Annexure 1.7: List of Service Providers which reported IP Telephony Minutes.	103
Annexure 1.8: Service Area wise PMRTS subscriber Base	104
Annexure 2.1: GSM Service - Service Area wise Statistics	104
Annexure 2.2: CDMA Full Mobility Service - Service Area wise Statistics.....	105
Annexure 4.1: Performance of QoS Parameters for Cellular Mobile 2G Service	106
Annexure 4.2: Performance of QoS Parameters for Cellular Mobile 3G Service	112
Annexure 4.3: Performance of QoS Parameters for Basic (Wire-line) Service..	115
Annexure 4.4: Quality of Service Performance of Broadband Service	117
Annexure 5.1: List of Broadcasters and their Pay TV Channels as reported to TRAI.....	122
Annexure 5.2: List of Pay DTH Operators	128
Annexure 5.3: List of existing 84 cities with operational FM Radio Channels in India	128
Index of Tables & Charts	131

Snapshot

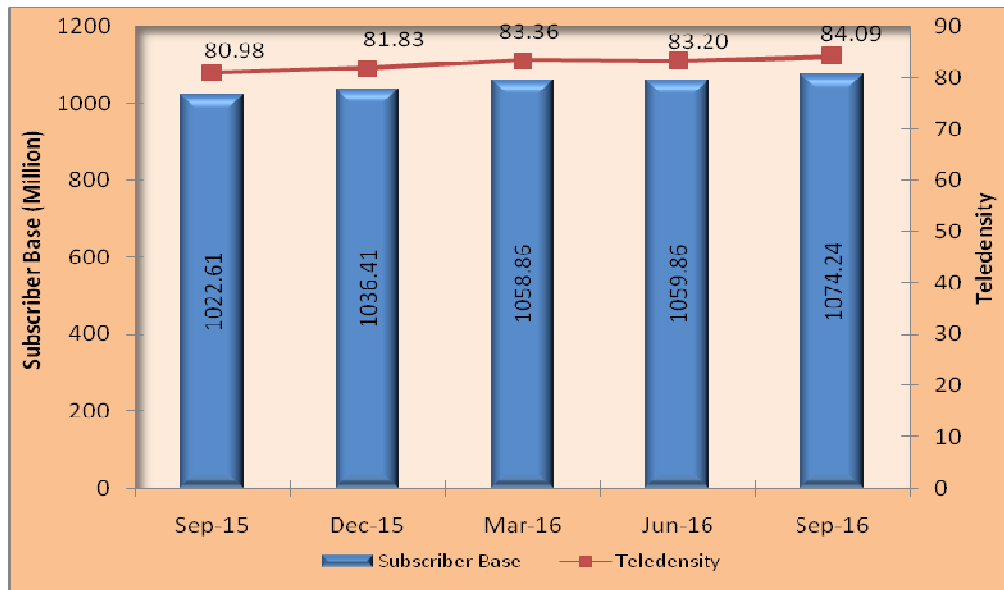
(Data As on Q.E. 30th September, 2016)	
Telecom Subscribers (Wireless + Wireline)	
Total Subscribers	1,074.24 Million
% change over the previous quarter	1.36%
Urban Subscribers	624.38 Million
Rural Subscribers	449.86 Million
Market share of Private Operators	89.32%
Market share of PSU Operators	10.68%
Teledensity	84.09
Urban Teledensity	156.24
Rural Teledensity	51.24
Wireless Subscribers	
Total Wireless Subscribers	1,049.74 Million
% change over the previous quarter	1.41%
Urban Subscribers	603.80 Million
Rural Subscribers	445.94 Million
GSM Subscribers	1,032.77 Million
CDMA Subscribers	16.97 Million
Market share of Private Operators	90.72%
Market share of PSU Operators	9.28%
Teledensity	82.17
Urban Teledensity	151.10
Rural Teledensity	50.80
Wireline Subscribers	
Total Wireline Subscribers	24.49 Million
% change over the previous quarter	-1.01%
Urban Subscribers	20.57 Million
Rural Subscribers	3.92 Million
Market share of Private Operators	29.16%
Market share of PSU Operators	70.84%
Teledensity	1.92
Urban Teledensity	5.15
Rural Teledensity	0.45
No. of Village Public Telephones (VPT)	5,86,774
No. of Public Call Office (PCO)	5,08,236
Telecom Financial Data	
Gross Revenue (GR) during the quarter	₹ 71,379 Crore
% change in GR over the previous quarter	-2.68%
Adjusted Gross Revenue (AGR) during the quarter	₹ 50,539 Crore
% change in AGR over the previous quarter	-5.33%
Share of Public sector undertakings in Access AGR	9.28%
Monthly Average Revenue Per User (ARPU) for Access Services	₹ 131

Internet/Broadband Subscribers	
Total Internet Subscribers	367.48 Million
% change over previous quarter	4.85%
Narrowband subscribers	175.18 Million
Broadband subscribers	192.30 Million
Wired Internet Subscribers	21.26 Million
Wireless Internet Subscribers	346.22 Million
Urban Internet Subscribers	247.69 Million
Rural Internet Subscribers	119.79 Million
Total Internet Subscribers per 100 population	28.77
Urban Internet Subscribers per 100 population	61.98
Rural Internet Subscribers per 100 population	13.65
Broadcasting & Cable Services	
Number of private satellite TV channels permitted by the Ministry of I&B for uplinking only/ downlinking / uplinking	881
Number of Pay TV Channels	281
Number of private FM Radio Stations (excluding All India Radio)	260
Number of Pay Subscribers Registered with Private DTH Operators	94.61 Million
Number of Pay Subscribers Active with Private DTH Operators	61.90 Million
Number of Community Radio Stations licenced (GOPA signed)	250
Number of Operational Community Radio Stations	200
Number of pay DTH Operators	6
Revenue & Usage Parameters	
Monthly ARPU GSM Full Mobility Service	₹ 121
Monthly ARPU CDMA Full Mobility Service	₹ 154
Minutes of Usage (MOU) per subscriber per month - GSM Full Mobility Service	366 Minutes
Minutes of Usage (MOU) per subscriber per month - CDMA Full Mobility Service	269 Minutes
Total Outgoing Minutes of Usage for Internet Telephony	267 Million
Data Usage of Mobile Users	
Data Usage per subscriber per month - GSM	235.91 MB
Data Usage per subscriber per month - CDMA	385.00 MB
Data Usage per subscriber per month – Total(GSM+CDMA)	239.82 MB
Average outgo per MB data for GSM	₹ 0.18
Average outgo per MB data for CDMA	₹ 0.12

Executive Summary

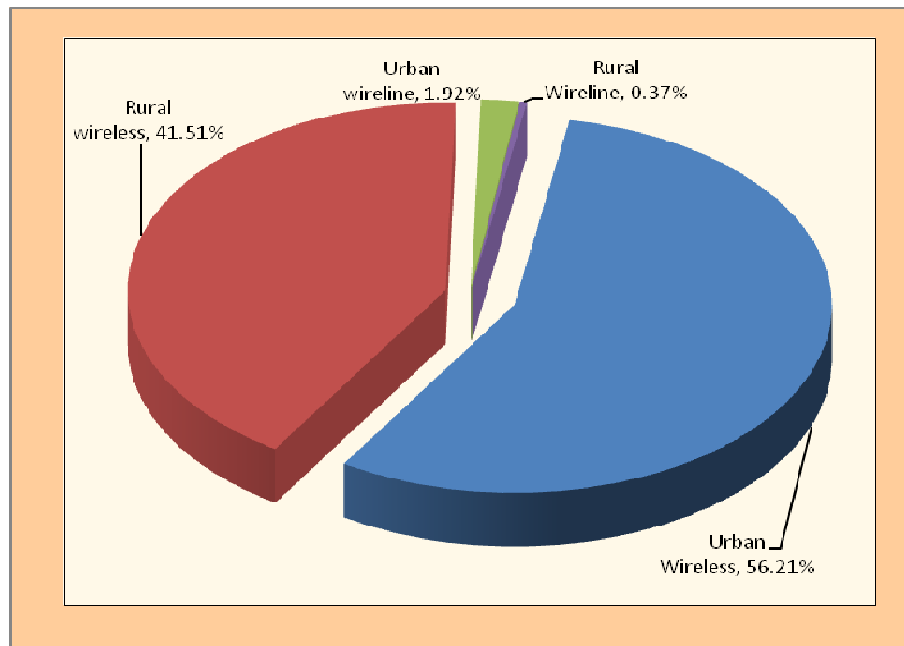
1. The number of telephone subscribers in India increased from 1,059.86 million at the end of Jun-16 to 1,074.24 million at the end of Sep-16, registering a growth of 1.36% over the previous quarter. This reflects year-on-year (Y-O-Y) growth of 5.05% over the same quarter of last year. The overall Teledensity in India increased from 83.20 as QE Jun-16 to 84.09 as on QE Sep-16.

Trends in Telephone subscribers and Teledensity in India



2. Subscription in Urban Areas increased from 609.45 million at the end of Jun-16 to 624.38 million at the end of Sep-16, and Urban Teledensity also increased from 153.22 to 156.24. However, Rural subscription declined from 450.41 million to 449.86 million and Rural Teledensity also declined from 51.41 to 51.24 during the same period.
3. Out of the total subscription, the share of Rural subscription declined from 42.50% at the end of Jun-16 to 41.88% at the end of Sep-16.

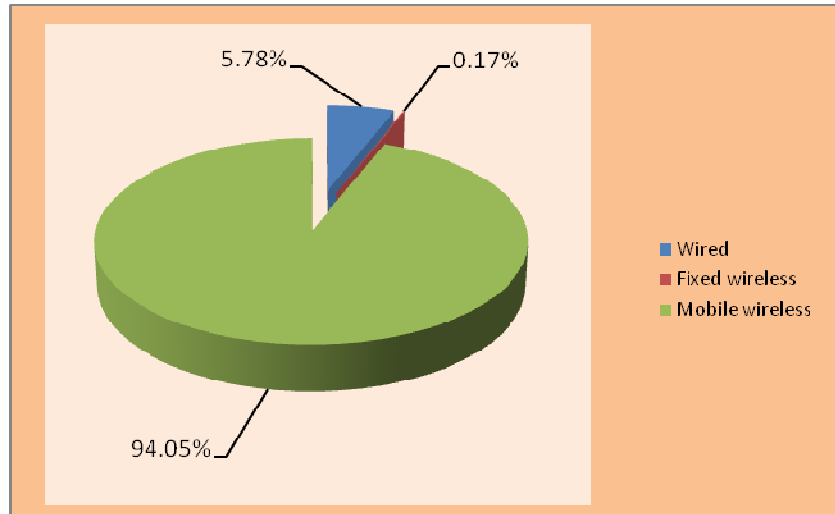
Composition of Telephone Subscribers



4. With a net addition of 14.63 million subscribers during the quarter, total wireless (GSM+CDMA) subscriber base increased from 1,035.12 million at the end of Jun-16 to 1,049.74 million at the end of Sep-16, registering a growth rate of 1.41% over the previous quarter. The year-on-year (Y-O-Y) growth rate of wireless subscribers for Sep-16 is 5.33%.
5. Wireless Tele-density increased from 81.26 at the end of Jun-16 to 82.17 at the end of Sep-16.
6. Wireline subscriber base further declined from 25.74 million at the end of Jun-16 to 24.49 million at the end of Sep-16, registering a quarterly decline rate of 1.01%. The year-on-year (Y-O-Y) decline rate in wireline subscribers for Jun-16 is 5.62%.
7. Wireline Teledensity declined from 1.94 at the end of Jun-16 to 1.92 at the end of Sep-16.

8. Total number of Internet subscribers has increased from 350.48 million at the end of Jun-16 to 367.48 million at the end of Sep-16, registering a quarterly growth rate of 4.85%. Out of 367.48 million, Wired Internet subscribers are 21.26 million and Wireless Internet subscribers are 346.22 million.

Composition of internet subscription

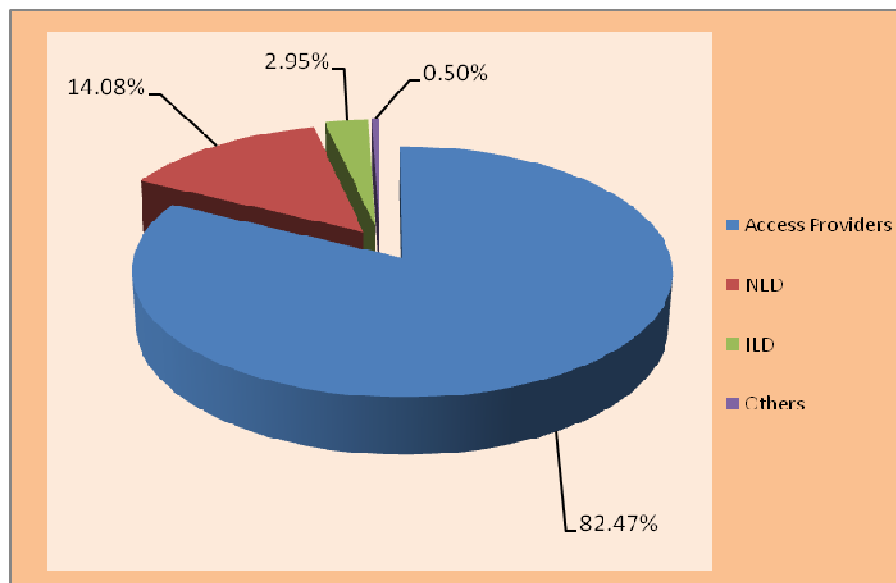


9. The Internet subscriber base of 367.48 million at the end of Sep-16 is comprised of Broadband Internet subscriber base of 192.30 million and Narrowband Internet subscriber base of 175.18 million.
10. The broadband Internet subscriber base grew by 18.66% from 162.06 million at the end of Jun-16 to 192.30 million at the end of Sep-16. On the other hand, the narrowband Internet subscriber base declined by 7.03% from 188.42 million at the end of Jun-16 to 175.18 million at the end of Sep-16.
11. Monthly Average Revenue Per User (ARPU) for GSM service declined by 4.02%, from ₹126 in QE Jun-16 to ₹121 in QE Sep-16. Monthly ARPU for GSM service declined by 0.98% on Y-O-Y in this quarter.

12. Prepaid ARPU for GSM service per month declined from ₹108 in QE Jun-16 to ₹103 in QE Sep-16, and Postpaid ARPU per month declined from ₹495 in QE Jun-16 to ₹485 in QE Sep-16.
13. On an all India average, the overall MOU per subscriber per month for GSM service declined by 2.91% from 377 for QE Jun-16 to 366 in QE Sep-16.
14. Prepaid MOU per subscriber for GSM service declined from 351 in QE Jun-16 to 339 in QE Sep-16, and postpaid MOU declined from 889 in QE Jun-16 to 885 in QE Sep-16.
15. Monthly ARPU for CDMA full mobility service increased by 56.38%, from ₹98.51 in QE Jun-16 to ₹154.05 in QE Sep-16. Monthly ARPU for CDMA full mobility service increased by 45.05% on Y-O-Y basis in this quarter.
16. The total MOU per subscriber per month for CDMA full mobility service increased by 18.08%, from 228 in QE Jun-16 to 269 in QE Sep-16. The outgoing MOUs increased from 130 in QE Jun-16 to 145 in QE Sep-16, and incoming MOUs also increased from 98 in QE Jun-16 to 124 in QE Sep-16.
17. Gross Revenue (GR) and Adjusted Gross Revenue (AGR) of Telecom Service Sector for the QE Sep-16 has been ₹71,379 Crore and ₹50,539 Crore respectively. GR and AGR declined by 2.68% and 5.33% respectively in QE Sep-16 as compared to previous quarter.
18. The year-on-year (Y-O-Y) growth in GR and AGR over the same quarter in last year has been 9.82% and 9.26% respectively.

19. Pass-through charges increased from ₹19,961 Crore in Q.E. Jun-16 to ₹20,839 in Q.E. Sep-16. The quarterly and the year-on-year (Y-O-Y) growth rates of pass-through charges for QE Sep-16 are 4.40% and 11.21% respectively.
20. The License Fee declined from ₹4,314 Crore for the QE Jun-16 to ₹4,091 Crore for the QE Sep-16. The quarterly and the year-on-year (Y-O-Y) growth rates of license fee are -5.18% and 10.54% respectively in this quarter.
21. Access services contributed 82.47% of the total Adjusted Gross Revenue of telecom services. In Access services, Gross Revenue (GR), Adjusted Gross Revenue(AGR), License Fee and Spectrum Usage Charges(SUC) declined by 2.68%, 5.33%, 5.18% and 13.05% respectively whereas, Pass Through Charges increased by 4.40% in QE Sep-16.
22. Monthly Average Revenue per User (ARPU) for Access Services based on AGR declined from ₹140.88 in QE Jun-16 to ₹131.10 in QE Sep-16.

Composition of Adjusted Gross Revenue



23. The performance of 2G wireless service providers in terms of QoS during the quarter vis-à-vis that in the previous quarter is given as below:

Parameters showing improvement in QoS	Parameters showing deterioration in QoS
<ul style="list-style-type: none"> • BTSs Accumulated downtime (not available for service) • Worst affected BTSs due to downtime • Call Set-up Success Rate (within licensee's own network) • SDCCH/Paging Channel Congestion • Metering and billing credibility – Postpaid • Period of applying credit/waiver/adjustment to customer's account from the date of resolution of complaints • %age of calls answered by the operators (voice to voice) within 90 sec • %age requests for Termination/ Closure of service complied within 7 days • Time taken for refund of deposits after closures 	<ul style="list-style-type: none"> • Worst affected cells having more than 3% TCH drop (call drop) rate • Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) • Metering and billing credibility – Prepaid • Resolution of billing/charging/validity complaints (98% within 4 weeks) • Resolution of billing/charging/validity complaints (100% within 6 weeks) • Accessibility of call centre/customer care

24. The performance of 3G wireless service providers in terms of QoS during the quarter vis-à-vis that in the previous quarter is given below:

Parameters showing improvement in QoS
<ul style="list-style-type: none"> • Worst affected BTSs and Node-B's due to downtime (%age) • SDCCH/Paging Channel and RRC Congestion (%age) • Worst affected cells having more than 3% TCH drop (call drop) rate and Circuit Switched Voice Drop Rate:-CBBH • Connections with good voice quality and Circuit Switched Voice Quality (CSV Quality)

25. The performance of wireline service providers in terms of QoS during the quarter vis-à-vis that in the previous quarter is given below:

Parameters showing improvement in QoS	Parameters showing deterioration in QoS
<ul style="list-style-type: none"> • Resolution of billing/ charging/ credit & validity complaints (98% within 4 weeks) • %age of calls answered by the operators (voice to voice) within 90 sec • Termination/ Closure of service 100% within 7 days 	<ul style="list-style-type: none"> • Fault incidences (No. of faults/100 subs/month) • Fault repaired by next working day for urban areas • Mean Time Fault repaired within 5 days (for urban areas) • Response time to the customer for Assistance – Accessibility of call centre/customer care.

26. A total number of 881 private satellite TV channels have been permitted by the Ministry of Information and Broadcasting (MIB) for uplinking only/ downlinking / uplinking, as on 30th September, 2016.
27. As reported by broadcasters, there were 281 pay channels at the quarter ending of September, 2016 as compared to 275 pay channels for the previous quarter. During the quarter, as per the reporting, twelve new pay channels were commenced, five Pay channels were converted to FTA channels and one channel was reported to be discontinued.
28. Since introduction in the year 2003, Indian DTH services have displayed a phenomenal growth. DTH has attained a registered subscriber base of around 94.61 million (including 61.90 million active subscribers). As on 30th September 2016, there are 6 pay DTH service providers catering to this subscriber base. This is besides the viewership of the free DTH services of Doordarshan.

29. Apart from the Radio Stations operated by All India Radio, Prasar Bharati – a public broadcaster, there are 260 operational private FM Radio stations and 84 existing cities with operational FM radio channels as on 30th September, 2016. This is as per the information available on the website of MIB.

30. As per data received from MIB, as on 30th September, 2016, out of the 250 community radio licenses issued so far, 200 stations are operational.

Trends at a Glance

A. Access Service (Wireline + Wireless)

	QE Sep 2015	QE Dec 2015	QE Mar 2016	QE Jun 2016	QE Sep 2016	%age change over Sep-2015	%age change over Dec-2015	%age change over Mar-2016	%age change over Jun-2016
						(12 months)	(9 months)	(6 months)	(3 months)
1) Subscriber Base (in million)									
Wireline	25.95	25.52	25.22	24.74	24.49	-5.62%	-4.01%	-2.89%	-1.01%
Wireless	996.66	1010.89	1033.63	1035.12	1049.74	5.33%	3.84%	1.56%	1.41%
Total	1022.61	1036.41	1058.86	1059.86	1074.24	5.05%	3.65%	1.45%	1.36%
Rural	423.61	435.75	449.17	450.41	449.86	6.20%	3.24%	0.15%	-0.12%
Urban	599.01	600.66	609.69	609.45	624.38	4.24%	3.95%	2.41%	2.45%
2) Teledensity									
Wireline	2.06	2.01	1.99	1.94	1.92	-6.71%	-4.84%	-3.45%	-1.29%
Wireless	78.93	79.82	81.38	81.26	82.17	4.11%	2.95%	0.98%	1.12%
Total	80.98	81.83	83.36	83.20	84.09	3.83%	2.76%	0.87%	1.07%
Rural	48.66	49.94	51.37	51.41	51.24	5.32%	2.60%	-0.25%	-0.33%
Urban	152.76	152.45	154.01	153.22	156.24	2.28%	2.49%	1.45%	1.97%
3) Service Provider wise Subscribers Base (in Million)									
Bharti	238.74	246.89	254.90	259.47	263.74	10.47%	6.83%	3.47%	1.65%
Vodafone	188.26	193.69	198.04	199.49	200.84	6.68%	3.69%	1.42%	0.67%
Idea	166.56	171.91	175.07	176.23	178.82	7.36%	4.02%	2.14%	1.47%
BSNL	95.34	97.64	101.11	103.74	107.66	12.92%	10.26%	6.48%	3.77%
Aircel	84.00	85.63	87.09	88.93	90.14	7.32%	5.27%	3.51%	1.36%
Reliance	111.55	102.05	103.58	99.88	88.34	-20.81%	-13.44%	-14.72%	-11.56%
Tata	63.73	62.43	61.82	61.10	58.79	-7.76%	-5.84%	-4.91%	-3.79%
Telenor	47.78	50.70	52.45	53.09	52.86	10.62%	4.25%	0.77%	-0.44%
Reliance Jio	-	-	-	-	15.98	-	-	-	-
MTNL	7.13	7.13	7.06	7.07	7.07	-0.78%	-0.83%	0.12%	-0.02%
Sistema	8.42	8.06	7.75	7.65	6.78	-19.51%	-15.97%	-12.56%	-11.37%
Quadrant	3.20	3.30	3.42	3.19	3.24	1.11%	-1.88%	-5.30%	1.41%
Videocon	7.90	6.96	6.56	-	-	-	-	-	-
Total	1022.61	1036.41	1058.86	1059.86	1074.24	5.05%	3.65%	1.45%	1.36%

B. Internet Services

	QE Sep 2015	QE Dec 2015	QE Mar 2016	QE Jun 2016	QE Sep 2016	%age change over Sep-2015	%age change over Dec-2015	%age change over Mar-2016	%age change over Jun-2016
						(12 months)	(9 months)	(6 months)	(3 months)
1) Subscriber's Base (in million)									
A. Wired Internet Subscribers	19.60	19.98	20.44	20.76	21.26	8.44%	6.41%	3.98%	2.40%
B. Wireless Internet Subscribers	305.35	311.68	322.21	329.72	346.22	13.39%	11.08%	7.45%	5.01%
i. Mobile Wireless (Mobile & Dongle)	304.85	311.16	321.66	329.14	345.60	13.37%	11.07%	7.44%	5.00%
ii. Fixed Wireless (Wi-Fi, Wi-Max, Point-to-Point Radio & VSAT)	0.49	0.52	0.55	0.58	0.62	26.07%	18.88%	12.87%	8.38%
Total Internet Subscribers	324.95	331.66	342.65	350.48	367.48	13.09%	10.80%	7.25%	4.85%
2) No. of Internet Subs per 100 Population	25.73	26.19	26.98	27.51	28.77	11.78%	9.84%	6.63%	4.55%

C. Usage and Revenue for Full Mobility Services

1. Traffic (MOU) (minutes of use/subscriber/month)									
i) GSM	374	376	381	377	366	-2.32%	-2.66%	-3.95%	-2.91%
ii) CDMA	256	252	260	228	269	4.84%	6.85%	3.41%	18.08%
2) ARPU (Rs./sub/ month)									
i) GSM	122.17	122.71	124.85	126.05	120.98	-0.98%	-1.41%	-3.10%	-4.02%
ii) CDMA	106.21	103.33	103.54	98.51	154.05	45.05%	49.09%	48.78%	56.38%

D. Telecom Financial Data

	QE Sep 2015	QE Dec 2015	QE Mar 2016	QE Jun 2016	QE Sep 2016	%age change over Sep-2015	%age change over Dec-2015	%age change over Mar-2016	%age change over Jun-2016
						(12 months)	(9 months)	(6 months)	(3 months)
1. Telecom Sector									
i) Gross Revenue (₹ in Crores)	64996.42	65347.09	68335.39	73344.66	71378.69	9.82%	9.23%	4.45%	-2.68%
ii) Adjusted Gross Revenue (₹ in Crores)	46256.85	46086.66	48379.00	53383.55	50539.20	9.26%	9.66%	4.47%	-5.33%
2. Access Services									
Adjusted Gross Revenue (₹ in Crores)	37882.13	38293.56	39885.55	44754.11	41681.33	10.03%	8.85%	4.50%	-6.87%
ARPU per month (AGR/ Average subscribers/3)	124.68	123.77	126.91	140.88	131.10	5.15%	5.93%	3.30%	-6.94%

Introduction

This Report presents the Key Parameters and growth trends for the Telecom Services in India for the quarter ending September, 2016. It provides a broad perspective on the Telecom Services to serve as a reference document for various stakeholders, research agencies and analysts. Chapter-1 depicts the growth pattern, in terms of Subscriber base and Tele-density of Wireline, Wireless, Internet and Value Added Services (VAS). Chapter-2 covers the key revenue and usage parameters. Chapter-3 gives the financial and accounting data. Chapter-4 covers performance of various telecom service providers in terms of QoS. The information relating to Cable TV, DTH & Radio Broadcast services is provided in Chapter-5.

2. The Report has been prepared based on the information furnished by the Service Providers. It is also available on TRAI's website (www.trai.gov.in). Any suggestion pertaining to this report may please be addressed to Advisor (F&EA), TRAI on Tel. +91-11-23230752, Fax. +91-11-23236650 and e-mail: advfea1@traigov.in.

Chapter 1 :

Subscription Data

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- In this report, Tele-density is based on the population projections from census data published by the Office of Registrar General & Census Commissioner of India.

Section A : Access Service - An Overview

1.1 The number of telephone subscribers in India increased from 1,059.86 million at the end of Jun-16 to 1,074.24 million at the end of Sep-16, registering a growth of 1.36% over the previous quarter. This reflects year-on-year (Y-O-Y) growth of 5.05% over the same quarter of last year. The overall Tele-density in India increased to 84.09 at the end of Sep-16 from 83.20 at the end of the previous quarter.

Chart 1.1: Trends in Telephone Subscribers and Tele-density in India

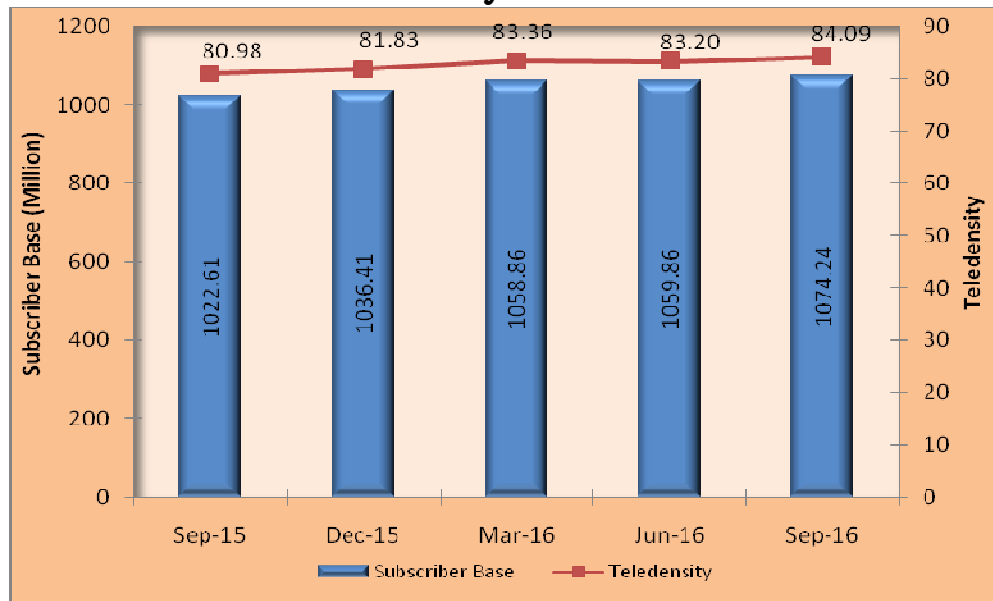
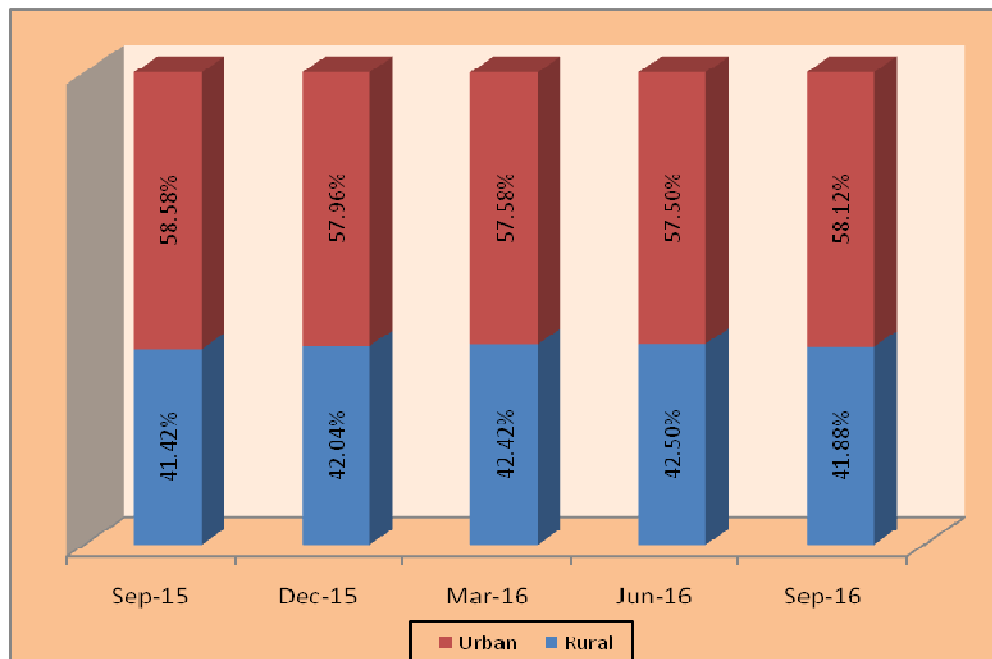


Table 1.1: Subscriber Base & Teledensity - Rural & Urban

Quarter ending	Subscriber Base (million)		Teledensity	
	Rural	Urban	Rural	Urban
Sep-15	423.61	599.01	48.66	153.49
Dec-15	435.75	600.66	49.94	152.45
Mar-16	449.17	609.69	51.37	154.01
Jun-16	450.41	609.45	51.40	153.22
Sep-16	449.86	624.38	51.24	156.24

- 1.2 Subscription in Urban Areas increased from 609.45 million at the end of Jun-16 to 624.38 million at the end of Sep-16, and the Urban Tele-density also increased from 153.22 to 156.24 during the quarter.
- 1.3 Rural subscription declined from 450.41 million to 449.86 million and the Rural Tele-density also declined from 51.40 to 51.24 during the quarter.
- 1.4 The year-on-year (Y-O-Y) growth rate of Rural and Urban Tele-density from Sep-15 to Sep-16 is 5.32% and 2.28% respectively.

Chart 1.2: Market Share - Rural & Urban Subscribers



- 1.5 Share of rural areas in total subscription has declined from 42.50% at the end of Jun-16 to 41.88% at the end of Sep-16. The year-on-year (Y-O-Y) growth of the market share in the rural areas for Sep-16 is 1.09%.

Chart 1.3: Composition of Access subscription - Wireline & Wireless

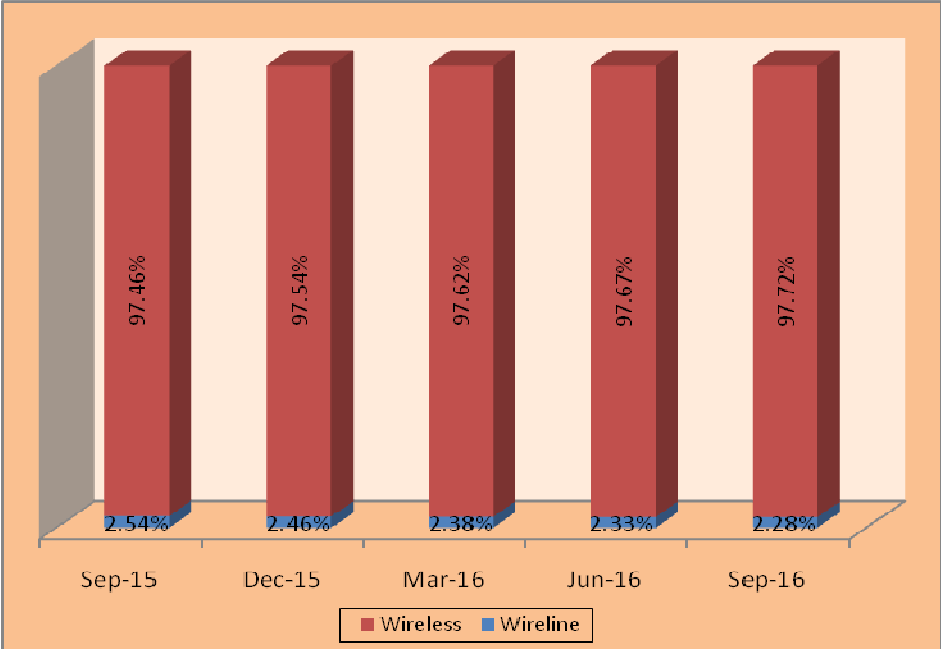


Chart 1.4: Composition of Rural-Urban Telephone Subscribers at the end of the quarter

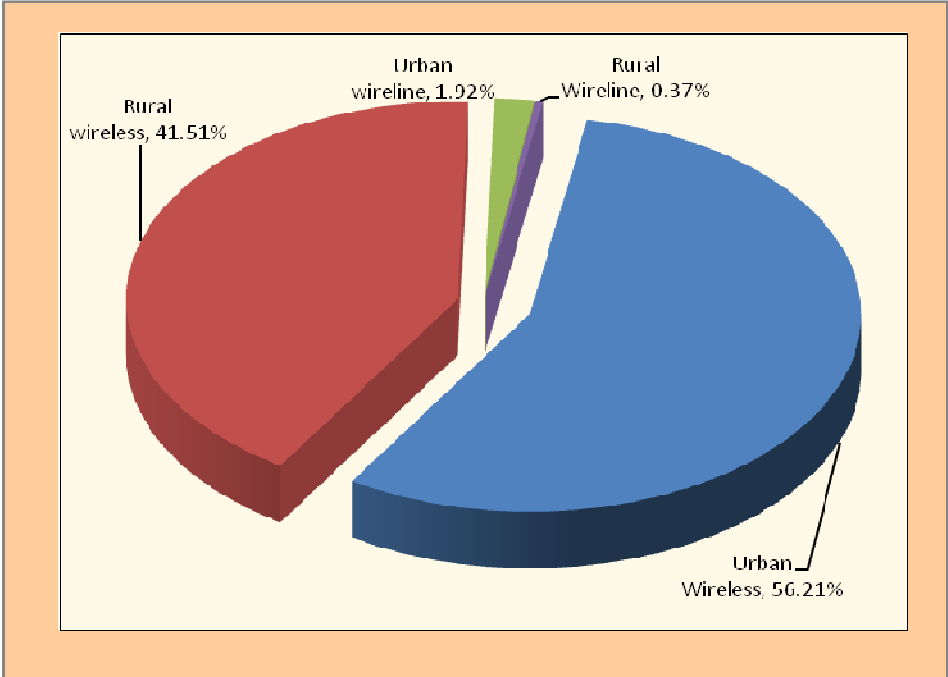


Table 1.2: Service Area wise Access (Wireless+Wireline) Subscriber base

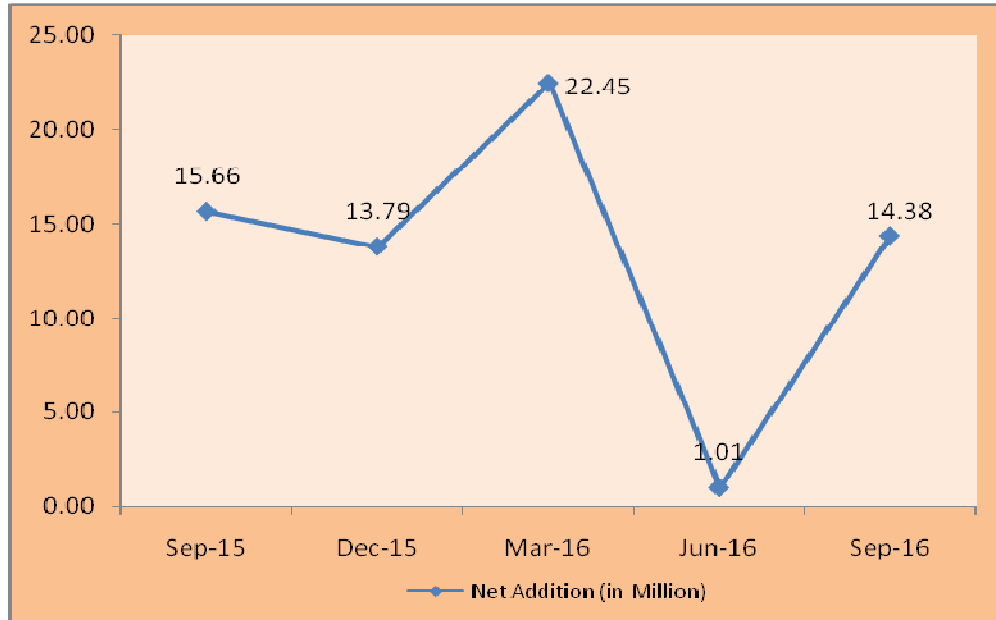
Service Area	Subscribers (million)			
	Jun-16	Sep-16	Net Additions	Rate of Growth (%)
Andhra Pradesh	75.00	76.43	1.43	1.91
Assam	19.36	19.99	0.63	3.25
Bihar	76.27	76.89	0.62	0.81
Delhi	50.41	49.11	-1.30	-2.58
Gujarat	63.03	64.72	1.69	2.68
Haryana	21.67	22.59	0.93	4.28
Himachal Pradesh	9.20	9.48	0.29	3.11
Jammu & Kashmir	10.15	9.70	-0.45	-4.43
Karnataka	63.96	64.83	0.87	1.36
Kerala	37.03	37.75	0.72	1.94
Madhya Pradesh	63.99	63.88	-0.11	-0.17
Maharashtra	86.21	86.86	0.65	0.75
Mumbai	34.65	34.91	0.26	0.74
North East	11.45	11.83	0.37	3.26
Orissa	30.15	31.33	1.18	3.90
Punjab	32.91	34.30	1.40	4.24
Rajasthan	61.37	61.91	0.54	0.88
T.N. (incl. Chennai)	83.95	84.74	0.79	0.94
U.P.(E)	94.49	95.31	0.81	0.86
U.P.(W)	58.09	58.88	0.79	1.36
Kolkata	26.17	26.59	0.41	1.58
West Bengal	50.33	52.20	1.86	3.70
All India	1,059.86	1,074.24	14.38	1.36

1.6 During the quarter, Haryana service area has recorded the highest growth rate of 4.28% followed by Punjabt service area (4.24%). Delhi, J&K and Madhya Pradesh service areas showed decline rate in subscriber base during the quarter ending Sep-16.

Table 1.3: Service Area wise Rural-Urban Subscribers – Sep-16

Service Area	Subscribers (million)			
	Total	Rural	Urban	% of Rural Subscribers
Andhra Pradesh	76.43	32.54	43.89	42.58
Assam	19.99	12.54	7.46	62.70
Bihar	76.89	43.41	33.47	56.46
Delhi	49.11	-	49.11	-
Gujarat	64.72	24.64	40.08	38.07
Haryana	22.59	10.33	12.27	45.71
Himachal Pradesh	9.48	6.16	3.32	64.96
Jammu & Kashmir	9.70	4.92	4.78	50.72
Karnataka	64.83	20.26	44.57	31.25
Kerala	37.75	16.88	20.87	44.70
Madhya Pradesh	63.88	29.99	33.90	46.94
Maharashtra	86.86	39.57	47.29	45.56
Mumbai	34.91	0.96	33.94	2.76
North East	11.83	5.99	5.84	50.66
Orissa	31.33	18.06	13.27	57.63
Punjab	34.30	12.54	21.76	36.55
Rajasthan	61.91	31.76	30.15	51.30
T.N. (incl. Chennai)	84.74	24.01	60.74	28.33
U.P.(E)	95.31	49.69	45.61	52.14
U.P.(W)	58.88	25.82	33.06	43.85
Kolkata	26.59	1.83	24.76	6.87
West Bengal	52.20	35.70	16.50	68.39
All India	1,074.24	449.86	624.38	41.88

Chart 1.5: Trend of Net Addition in Telephone Subscription



1.7 The net addition in telephone subscribers is 14.38 million in QE Sep-16 as against the net addition of 1.01 million in QE Jun-16.

Table 1.4 : Service Area wise Teledensity

Service Area/ States	As on 30 th June, 2016			As on 30 th September, 2016		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Andhra Pradesh	51.04	171.38	84.66	50.89	176.92	86.12
Assam	44.82	135.40	59.46	45.82	140.81	61.22
Bihar	36.65	171.21	55.23	36.38	174.94	55.52
Delhi	-	-	234.60	-	-	226.94
Gujarat	66.14	143.83	98.76	66.46	148.85	101.12
Haryana	58.83	112.97	78.48	58.63	121.56	81.55
Himachal Pradesh	96.94	371.96	129.29	97.99	395.13	133.05
J&K	58.66	140.32	81.48	54.70	136.77	77.67

Service Area/ States	As on 30 th June, 2016			As on 30 th September, 2016		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Karnataka	53.36	178.88	102.25	53.00	182.16	103.42
Kerala	62.50	223.90	103.36	62.98	229.93	105.23
Madhya Pradesh	40.68	116.13	61.40	39.56	117.83	61.09
Maharashtra (incl. Mumbai)*	64.81	134.47	98.63	64.22	135.86	99.06
North East	56.34	157.40	81.84	57.15	164.48	84.28
Orissa	50.77	163.42	70.80	51.49	174.48	73.42
Punjab	72.03	149.53	106.14	72.21	158.56	110.34
Rajasthan	57.78	165.14	83.75	56.99	169.46	84.21
Tamil Nadu (incl. Chennai)	85.22	139.61	117.91	84.94	141.14	118.86
Uttar Pradesh (incl. UPE & UPW)	42.78	145.70	66.37	42.47	148.51	66.81
West Bengal (incl. Kolkata)*	53.92	146.48	80.52	55.32	150.68	82.74
All India	51.41	153.22	83.20	51.24	156.24	84.09

* Population data/projections are available state-wise only.

Notes:-

1. Tele-density figures are derived from the subscriber data provided by the operators and the population projections, for Urban and Rural areas, of the country, published by the Office of the Registrar General & Census Commissioner, India.
2. Delhi Service area, apart from the State of Delhi, includes wireless subscribers of the areas served by the local exchanges of Ghaziabad & Noida (in UP) and Gurgaon & Faridabad (in Haryana).
3. Data/information for Andhra Pradesh includes Telengana, Madhya Pradesh includes Chhatisgarh, Bihar includes Jharkhand, Maharashtra includes Goa, Uttar Pradesh includes Uttarakhand, West Bengal includes Sikkim and North-East includes Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland & Tripura states.

1.8 Himachal Pradesh service area has the highest Rural Tele-density of 97.99 followed by Tamil Nadu service area (84.94). Bihar service area continues to have the lowest Rural Tele-density of 36.38.

Table 1.5 : Growth/Decline in Subscriber base

Service Provider	Subscriber base (millions)			Rate of Growth (%)	Market Share in QE Jun-16 (%)	Market Share in QE Sep-16 (%)
	Mar-16	Jun-16	Net Additions			
Bharti	259.47	263.74	4.27	1.65	24.48	24.55
Vodafone	199.49	200.84	1.35	0.67	18.82	18.70
IDEA	176.23	178.82	2.58	1.47	16.63	16.65
BSNL	103.74	107.66	3.91	3.77	9.79	10.02
Aircel	88.93	90.14	1.21	1.36	8.39	8.39
Reliance Comm. Group	99.88	88.34	-11.55	-11.56	9.42	8.22
Tata	61.10	58.79	-2.32	-3.79	5.77	5.47
Telenor	53.09	52.86	-0.23	-0.44	5.01	4.92
Reliance Jio*	-	15.98	15.98	-	-	1.49
MTNL	7.07	7.07	0.00	0.00	0.67	0.66
Sistema	7.65	6.78	-0.87	-11.37	0.72	0.63
Quadrant	3.19	3.24	0.04	1.41	0.30	0.30
Total	1,059.86	1,074.24	14.38	1.36	100	100

*Note: M/s Reliance Jio Infocom Ltd has commenced its wireless service during the quarter July-September, 2016

1.9 Bharti Airtel is the leading service provider in access segment in terms of number of subscribers. During the QE Sep-16, Reliance Jio Infocom Ltd. recorded the highest net addition of 15.98 million subscribers followed by Bharti Airtel (4.27 million) and BSNL (3.77 million).

1.10 Reliance Communications Group recorded the highest decline of 11.55 million subscribers during the QE Sep-16.

Table 1.6 : Market Share of the service providers in total rural subscriber base – Q.E. Sep-16

Service Provider	No. of Total Subscribers (in millions)	No. of Rural Subscribers (in millions)	Percentage of Rural subscribers	Market share of Rural subscribers (%)
Bharti	263.74	126.65	48.02	28.15
Vodafone	200.84	106.40	52.98	23.65
IDEA	178.82	96.57	54.00	21.47
BSNL	107.66	34.69	32.22	7.71
Aircel	90.14	31.13	34.54	6.92
Reliance Comm. Group	88.34	20.92	23.68	4.65
Telenor	52.86	15.95	30.18	3.55
Tata	58.79	15.30	26.02	3.40
Sistema	6.78	1.45	21.46	0.32
Reliance Jio	15.98	0.68	4.25	0.15
Quadrant	3.24	0.13	3.91	0.03
MTNL	7.07	-	-	-
Total	1,074.24	449.86	41.88	100

1.11 IDEA continues to remain the service provider with highest proportion of rural subscribers (54.00%), followed by Vodafone (52.98%) to their total subscribers.

Section B : Wireless Service

Table 1.7: List of Cellular Mobile (GSM & CDMA) Service Providers currently providing service [As on 30th September, 2016]

Sl.No.	Service Provider	Area of Operation
1	Bharti Airtel	All India
2	Aircel Group	All India
3	Reliance Communications	All India (except Assam & NE)
4	Reliance Telecom Ltd	Kolkata, MP, WB, HP, Bihar, Orissa, Assam & NE
5	Vodafone (India) Ltd	All India
6	Tata Teleservices	All India except Assam, NE & J&K
7	IDEA Cellular Ltd	All India
8	Sistema Shyam Telelink	Delhi, Kolkata, Gujarat, Karnataka, Tamil Nadu (incl. Chennai), Kerala, UP(W), Rajasthan & W.B.
9	BSNL	All India (except Delhi & Mumbai)
10	MTNL	Delhi & Mumbai
11	Quadrant	Punjab
12	Telenor Communications (India) Pvt. Ltd.	MH, Gujarat, AP, UP(W), UP(E), Bihar
13	Reliance Jio Infocom Ltd	All India

1.12 Complete list of licensed Cellular (GSM & CDMA) Service providers as on 30th September, 2016 is at Annexure -1.1.

1.13 Total Wireless (GSM+CDMA) subscriber base increased from 1,035.12 million at the end of Jun-16 to 1,049.74 million at the end of Sep-16, thereby showing a quarterly growth rate of 1.41%. During this quarter, net addition of 14.63 million subscribers was recorded. The year-on-year (Y-O-Y) growth of wireless subscribers is 5.33% for Q.E. Sep-16.

1.14 Wireless Teledensity increased from 81.26 at the end of Jun-16 to 82.17 at the end of Sep-16.

Chart 1.6: Wireless Subscriber Base and Teledensity

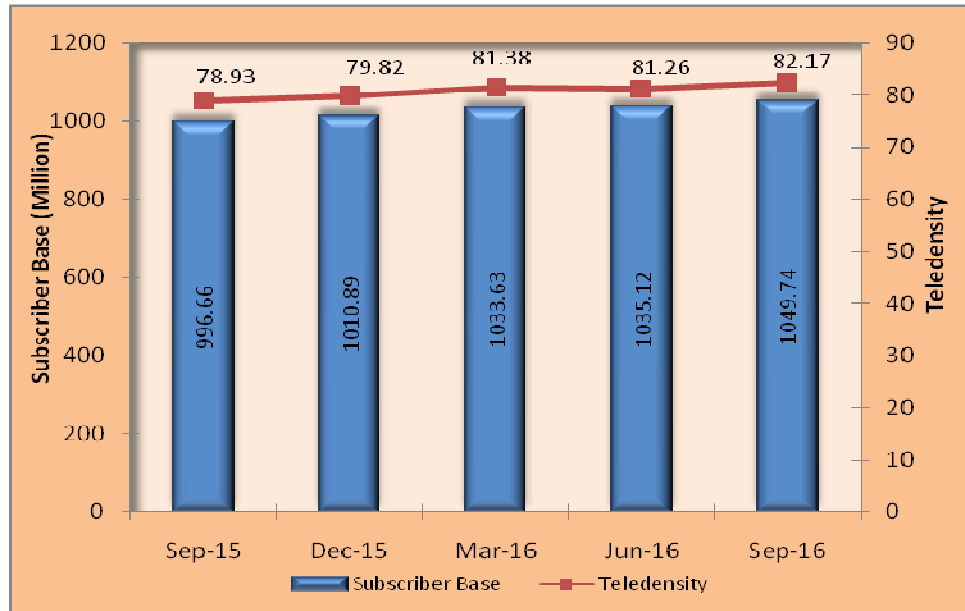


Table 1.8: Wireless Subscriber Base & Teledensity - Rural & Urban

Quarter ending	Subscriber Base (million)		Tele-density	
	Rural	Urban	Rural	Urban
Sep-15	418.84	577.82	48.11	147.35
Dec-15	431.22	579.67	49.43	147.12
Mar-16	444.84	588.79	50.88	148.73
Jun-16	446.33	588.78	50.95	148.03
Sep-16	445.94	603.80	50.80	151.10

1.15 The Rural Wireless subscribers declined from 446.33 million at the end of Jun-16 to 445.94 million at the end of Sep-16, however the urban wireless subscribers increased from 588.78 million to 603.80 million during the quarter.

1.16 Quarterly Growth rates of Rural and Urban wireless subscriptions are -0.09% and 2.55% respectively during the QE Sep-16.

1.17 The share of rural wireless subscription declined from 43.12% to 42.48% in total wireless subscription in this quarter.

Chart 1.7: Wireless Market Share - Rural & Urban

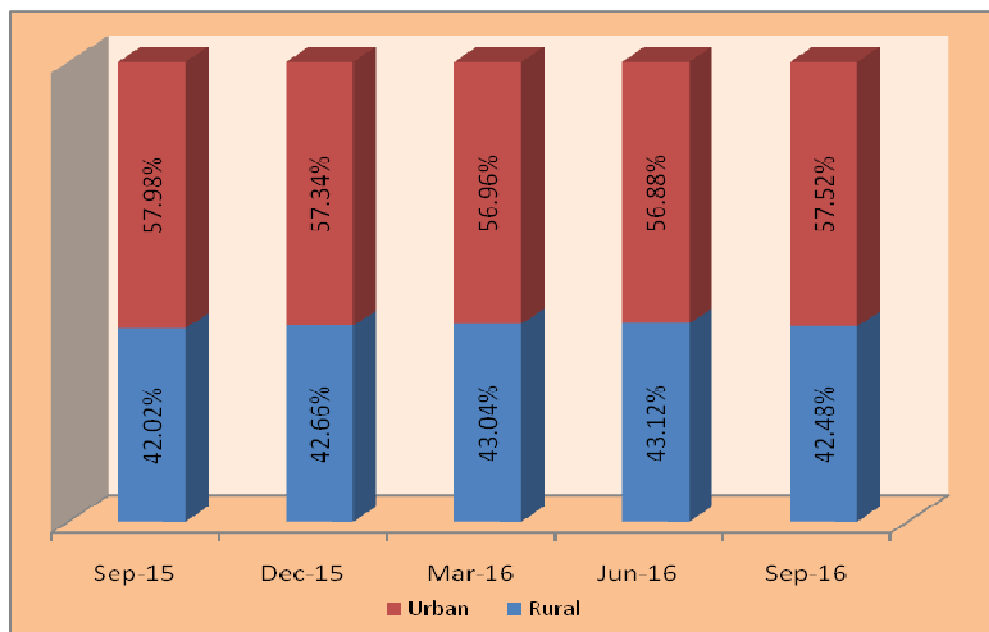


Table 1.9: Growth in Wireless Subscriber base

Service Provider	Subscriber Base (millions)			Rate of Growth (%)	Market Share Jun-16 (%)	Market Share Sep-16 (%)
	Jun-16	Sep-16	Net Additions			
Bharti	255.73	259.94	4.21	1.64	24.71	24.76
Vodafone	199.38	200.72	1.34	0.67	19.26	19.12
IDEA	176.23	178.82	2.58	1.47	17.03	17.03
BSNL	89.54	93.77	4.22	4.72	8.65	8.93
Aircel	88.93	90.14	1.21	1.36	8.59	8.59
Reliance Comm. Group	98.71	87.16	-11.55	-11.70	9.54	8.30
Tata	59.37	57.05	-2.32	-3.91	5.74	5.44
Telenor	53.09	52.86	-0.23	-0.44	5.13	5.04
Reliance Jio*	-	15.98	15.98	-	-	1.52
Sistema	7.59	6.72	-0.87	-11.47	0.73	0.64
MTNL	3.59	3.61	0.02	0.62	0.35	0.34
Quadrant	2.93	2.98	0.04	1.44	0.28	0.28
Total	1,035.12	1,049.74	14.63	1.41	100	100

*Note : M/s Reliance Jio Infocom Ltd has commenced their wireless service during the QE July-September, 2016.

- 1.18 Bharti remains the leading service provider with 259.94 million wireless subscribers at the end of Sep-16, followed by Vodafone (200.72 million).
- 1.19 In terms of net additions during the quarter ending Sep-16, Reliance Jio (15.98 million) has added the highest number of subscribers, followed by BSNL (4.22 million).

Table 1.10: Service Area wise Wireless Subscriber base

Service Area	Subscriber base (in million)			
	Jun-16	Sep-16	Net Additions	Rate of change (%)
Andhra Pradesh	73.33	74.79	1.46	1.99
Assam	19.21	19.84	0.63	3.28
Bihar	75.94	76.56	0.62	0.82
Delhi	47.23	45.91	-1.32	-2.79
Gujarat	61.67	63.37	1.70	2.76
Haryana	21.31	22.24	0.93	4.37
Himachal Pradesh	9.04	9.33	0.29	3.23
Jammu & Kashmir	10.02	9.57	-0.45	-4.50
Karnataka	61.72	62.60	0.89	1.43
Kerala	34.80	35.60	0.79	2.28
Madhya Pradesh	62.96	62.85	-0.11	-0.18
Maharashtra	84.30	84.97	0.68	0.80
Mumbai	31.63	31.90	0.27	0.86
North East	11.33	11.70	0.37	3.30
Orissa	29.86	31.04	1.18	3.95
Punjab	31.86	33.27	1.41	4.42
Rajasthan	60.59	61.14	0.55	0.91
T.N. (incl. Chennai)	81.38	82.20	0.82	1.01
U.P.(E)	93.99	94.81	0.82	0.87
U.P.(W)	57.68	58.47	0.79	1.38
Kolkata	25.29	25.71	0.42	1.67
West Bengal	49.98	51.86	1.87	3.75
All India	1,035.12	1,049.74	14.63	1.41

Table 1.11: Service Area wise Wireless Rural-Urban Subscriber base

Service Area	Subscriber base (in million) – Sep-16			
	Total	Rural	Urban	% of Rural Subscribers
Andhra Pradesh	74.79	32.23	42.56	43.09
Assam	19.84	12.51	7.33	63.06
Bihar	76.56	43.33	33.24	56.59
Delhi	45.91	2.27	43.64	4.94
Gujarat	63.37	24.45	38.93	38.57
Haryana	22.24	10.25	11.99	46.10
Himachal Pradesh	9.33	6.06	3.26	65.00
Jammu & Kashmir	9.57	4.90	4.67	51.22
Karnataka	62.60	20.06	42.54	32.05
Kerala	35.60	15.54	20.06	43.65
Madhya Pradesh	62.85	29.87	32.98	47.52
Maharashtra	84.97	39.23	45.75	46.16
Mumbai	31.90	0.96	30.93	3.02
North East	11.70	5.97	5.74	50.98
Orissa	31.04	17.99	13.05	57.96
Punjab	33.27	12.28	20.99	36.91
Rajasthan	61.14	31.62	29.52	51.72
T.N. (incl. Chennai)	82.20	23.64	58.56	28.76
U.P.(E)	94.81	49.62	45.19	52.34
U.P.(W)	58.47	25.78	32.69	44.09
Kolkata	25.71	1.83	23.89	7.10
West Bengal	51.86	35.55	16.30	68.56
All India	1,049.74	445.94	603.80	42.48

Table 1.12 : Service Area wise Wireless Tele-density

Service Area	As on 30 th June, 2016			As on 30 th September, 2016		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
A.P.	50.51	165.98	82.78	50.40	171.56	84.26
Assam	44.71	132.94	58.97	45.71	138.38	60.74
Bihar	36.58	169.95	55.00	36.31	173.70	55.29
Delhi	-	-	219.78	-	-	212.16
Gujarat	65.59	139.51	96.63	65.93	144.58	99.01
Haryana	58.40	110.16	77.19	58.21	118.78	80.27
H.P.	95.30	364.98	127.01	96.43	388.25	130.86
J&K	58.47	137.13	80.45	54.51	133.55	76.64
Karnataka	52.83	170.51	98.66	52.50	173.86	99.87
Kerala	57.28	214.80	97.16	57.99	220.96	99.23
M.P.	40.52	112.95	60.41	39.40	114.66	60.10
Maharashtra (incl. Mumbai)*	64.24	126.77	94.60	63.67	128.25	95.08
North East	56.10	154.65	80.96	56.90	161.74	83.41
Orissa	50.58	160.43	70.11	51.31	171.51	72.74
Punjab	70.47	143.85	102.77	70.71	152.93	107.01
Rajasthan	57.53	161.56	82.69	56.75	165.93	83.17
Tamil Nadu (incl. Chennai)	83.89	134.48	114.30	83.66	136.07	115.29
Uttar Pradesh (incl. UPE&UPW)*	42.71	144.18	65.97	42.41	147.01	66.42
West Bengal (incl. Kolkata)*	53.69	142.52	79.22	55.10	146.78	81.47
All India	50.95	148.03	81.26	50.80	151.10	82.17

* Population data/projections are available state-wise only.

Notes:

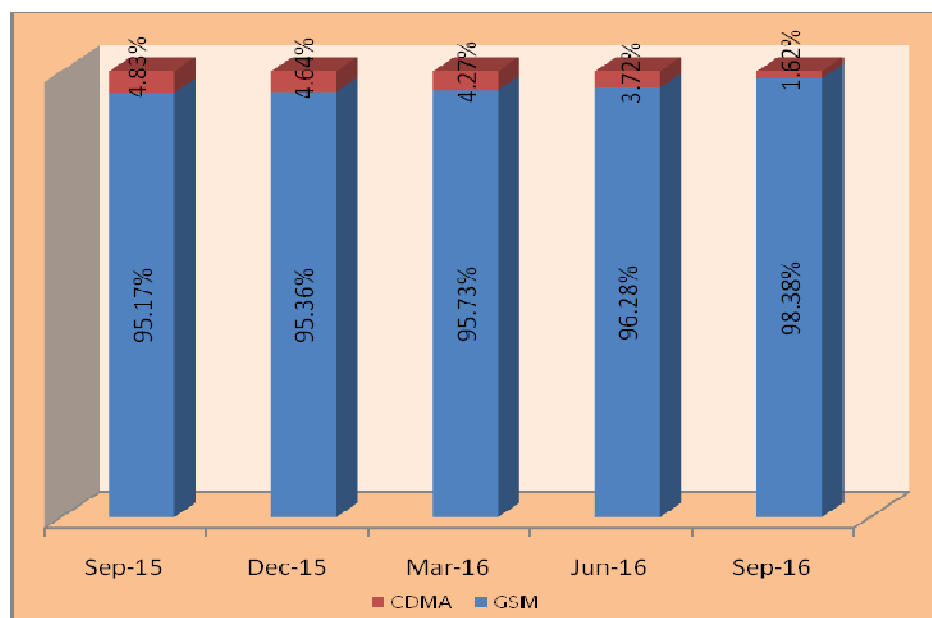
1. Teledensity figures are derived from the subscriber data provided by the operators and the population projections, for Urban and Rural areas, of the country, published by the Office of the Registrar General & Census Commissioner, India.
2. Delhi service area, apart from the State of Delhi, includes the areas served by the local exchanges of Ghaziabad & Noida (in UP) and Gurgaon & Faridabad (in Haryana).
3. Data/information for Andhra Pradesh includes Telengana, Madhya Pradesh includes Chhatisgarh, Bihar includes Jharkhand, Maharashtra includes Goa, Uttar Pradesh includes Uttarakhand, West Bengal includes Sikkim and North-East includes Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland & Tripura states.

Table 1.13 : Rural Wireless Subscriber base and Market Share

Service Provider	Total number of wireless Subscribers (in millions)	Rural Subscribers (in millions)	% of Rural subscribers in total	Market Share of Rural Subscribers (%)
Bharti	259.94	126.65	48.72	28.40
Vodafone	200.72	106.40	53.01	23.86
IDEA	178.82	96.57	54.00	21.65
Aircel	90.14	31.13	34.54	6.98
BSNL	93.77	30.88	32.94	6.93
Reliance Comm. Group	87.16	20.91	23.99	4.69
Telenor	52.86	15.95	30.18	3.58
Tata	57.05	15.25	26.72	3.42
Sistema	6.72	1.44	21.50	0.32
Reliance Jio	15.98	0.68	4.25	0.15
Quadrant	2.98	0.07	2.32	0.02
MTNL	3.61	0.00	0.00	0.00
Total	1,049.74	445.94	42.48	100

1.20 Detailed table on service provider wise subscriber base in each service area is at Annexure-1.2.

Chart 1.8: Share of Wireless Subscription: GSM vs CDMA



1.21 At the end of Sep-16, GSM subscribers constituted 98.38% share of the wireless market as compare to 96.28% in previous quarter.

GSM Services

1.22 The GSM subscribers increased from 996.66 million at the end of Jun-16 to 1,032.77 million at the end of Sep-16, showing a quarterly growth of 3.62%. Bharti with 259.94 million subscribers continues to be the largest GSM mobile operator, followed by Vodafone (200.72 million).

Table 1.14 : Group-wise Market Share (in terms of subscription) within GSM Service

Service Provider	Jun-16		Sep-16		
	No of Subscribers (in millions)	Market Share (%)	No of Subscribers (in millions)	Market Share (%)	Net Additions (in million)
Bharti	255.73	25.66	259.94	25.17	4.21
Vodafone	199.38	20.01	200.72	19.44	1.34
Idea	176.23	17.68	178.82	17.31	2.58
BSNL	88.60	8.89	92.91	9.00	4.31
Aircel	88.93	8.92	90.14	8.73	1.21
Reliance Comm. Group	79.13	7.94	87.16	8.44	8.03
Telenor	53.09	5.33	52.86	5.12	-0.23
Tata	49.02	4.92	47.66	4.61	-1.36
Reliance Jio	-	-	15.98	1.55	15.98
MTNL	3.59	0.36	3.61	0.35	0.02
Quadrant	2.93	0.29	2.98	0.29	0.04
Total	996.66	100	1032.77	100	36.11

1.23 There has been a net increase of 36.11 million GSM subscribers during the quarter ending Sep-16.

CDMA Services

1.24 The CDMA subscriber base declined from 38.46 million at the end of Jun-16 to 16.97 million at the end of Sep-16, thereby showing a decline rate of 55.87%. Reliance Communications Group has stopped their CDMA service during the QE July-September, 2016. Now, Tata Teleservices with 9.40 million subscribers became the leading operator in CDMA service.

Table 1.15 : Market Share (in terms of subscription) within CDMA Service

Service Provider	Jun-16		Sep-16		Net Addition/ Decline (in million)
	No of Subscribers (in million)	Market Share (%)	No of Subscribers (in million)	Market Share (%)	
Reliance Comm. Group	19.58	50.90	0.00	0.00	-19.58
Tata	10.35	26.92	9.40	55.37	-0.96
Sistema	7.59	19.73	6.72	39.59	-0.87
BSNL	0.94	2.44	0.86	5.04	-0.08
Total	38.46	100	16.97	100	-21.49

Note – M/s Reliance Communications Group has closed their CDMA service.

1.25 There has been a net decline of 21.49 million CDMA subscribers during the quarter ending Sep-16.

1.26 In terms of net additions during the quarter, all the service providers recorded decline in their CDMA subscriber base.

Section C : Wireline Service

Table 1.16 : Service Providers providing Wireline Service

[As on 30th September, 2016]

Sl. No.	Name of the Service Provider	Area of Operation
1	BSNL	All India except Delhi & Mumbai
2	MTNL	Delhi & Mumbai
3	Bharti Airtel Ltd	Andhra Pradesh (including Telangana), Delhi, Gujarat, Haryana, Himachal Pradesh, Madhya Pradesh (including Chhatisgarh), Maharashtra, Mumbai, Punjab, Tamil Nadu (including Chennai), Karnataka, Kerala, Kolkata, Rajasthan, UP(East) and UP(West)
4	Tata Teleservices Ltd. & Tata Teleservices (Mah) Ltd.	All India except N.E., Assam and J&K
5	Quadrant Televentures Ltd. (HFCL)	Punjab
6	Sistema Shyam Telelink Ltd.	Rajasthan
7	Reliance Communications Ltd.	All India except J&K, Assam & North-East
8	Vodafone	All India except J&K

1.27 Total Wireline subscriber base declined from 24.74 million at the end of Jun-16 to 24.49 million at the end of Sep-16 with quarterly declining rate of 1.01%. Overall Wireline Teledensity was 1.92 at the end of Sep-16 as against 1.94 of the previous quarter.

1.28 Rural subscriber base has shown decline of 3.90%, from 4.08 Million at the end of Jun-16 to 3.92 Million at the end of Sep-16. During the same period, Urban subscription also recorded decline of 0.44%, from 20.66 million to 20.57 million.

Chart 1.9: Wireline Subscriber Base and Teledensity

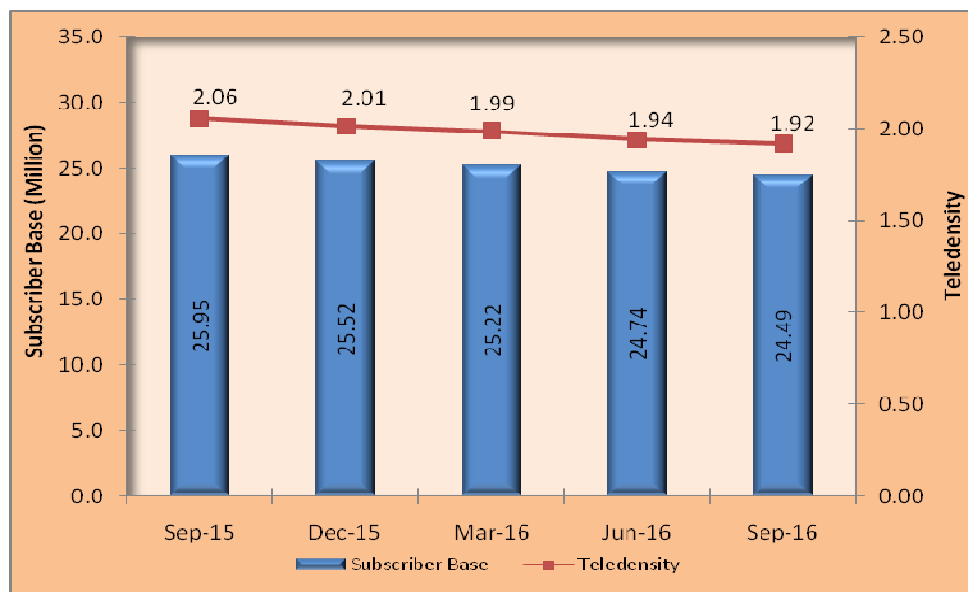


Table 1.17 : Wireline Subscriber Base & Teledensity - Rural & Urban

Quarter ending	Subscriber Base (million)		Teledensity	
	Rural	Urban	Rural	Urban
Sep-15	4.77	21.18	0.55	5.40
Dec-15	4.53	20.99	0.52	5.33
Mar-16	4.32	20.90	0.49	5.28
Jun-16	4.08	20.66	0.47	5.20
Sep-16	3.92	20.57	0.45	5.15

Table 1.18 : Service Provider wise Subscriber base (Rural - Urban)

Service Provider	Subscriber Base (million) Sep-16			Share of Rural subscription (%)
	Rural	Urban	Total	
BSNL	3.80	10.09	13.89	27.37
Bharti	--	3.80	3.80	--
MTNL	--	3.46	3.46	--
Tata	0.05	1.68	1.73	2.93
Reliance	0.002	1.17	1.18	0.15
Quadrant	0.06	0.20	0.26	22.11
Vodafone	--	0.12	0.12	--
Sistema	0.01	0.05	0.06	17.54
Total	3.92	20.57	24.49	16.01

Chart 1.10: Composition of Wireline Subscriber base - Rural & Urban

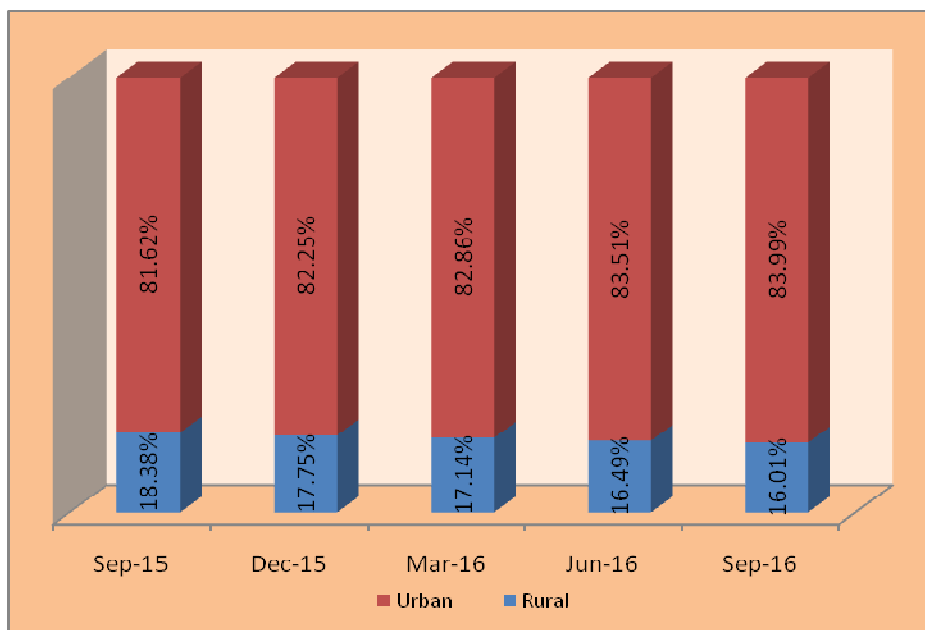


Table 1.19 : Service Provider wise growth in Wireline Subscriber base

Service Provider	Subscriber Base (million)			Rate of change (%)	Market share-Jun-16 (%)	Market share-Sep-16 (%)
	Jun-16	Sep-16	Net Addition			
BSNL	14.20	13.89	-0.309	-2.17	57.39	56.72
Bharti	3.73	3.80	0.066	1.76	15.08	15.50
MTNL	3.48	3.46	-0.023	-0.67	14.08	14.13
Tata	1.73	1.73	0.003	0.18	6.99	7.07
Reliance	1.17	1.18	0.002	0.14	4.74	4.80
Quadrant	0.26	0.26	0.003	1.11	1.04	1.06
Vodafone	0.11	0.12	0.008	7.21	0.45	0.48
Sistema	0.06	0.06	0.001	0.96	0.23	0.24
Total	24.74	24.49	-0.250	-1.01	100	100

1.29 Detailed table on service provider wise subscriber base in each service area is at Annexure-1.3.

Table 1.20: Service Area wise Wireline Subscriber base & Net Additions (in million)

Service Area	Jun-16	Sep-16	Net Additions	Rate of Change (%)
Andhra Pradesh	1.67	1.65	-0.025	-1.47
Assam	0.16	0.16	0.000	-0.18
Bihar	0.33	0.32	-0.004	-1.35
Delhi	3.18	3.20	0.016	0.49
Gujarat	1.36	1.35	-0.012	-0.90
Haryana	0.36	0.35	-0.003	-0.91
Himachal Pradesh	0.16	0.16	-0.006	-3.45
Jammu & Kashmir	0.13	0.13	0.001	0.91
Karnataka	2.24	2.23	-0.017	-0.74
Kerala	2.22	2.15	-0.072	-3.26
Madhya Pradesh	1.03	1.03	0.003	0.26
Maharashtra	1.91	1.88	-0.030	-1.57
Mumbai	3.03	3.01	-0.017	-0.56
North East	0.12	0.12	0.000	-0.22
Orissa	0.29	0.29	-0.002	-0.56
Punjab	1.04	1.03	-0.012	-1.16
Rajasthan	0.78	0.76	-0.013	-1.67
T.N. (incl. Chennai)	2.57	2.54	-0.027	-1.04
U.P.(E)	0.50	0.50	-0.003	-0.69
U.P.(W)	0.42	0.41	-0.005	-1.31
Kolkata	0.88	0.87	-0.008	-0.93
West Bengal	0.35	0.34	-0.012	-3.50
All India	24.74	24.49	-0.250	-1.01

1.30 Delhi, J&K and Madhya Pradesh service areas showed positive growth in wireline subscriber base during QE Sep-16. All other service areas showed decline rate during the same period.

**Table 1.21: Service Area wise Wireline Rural-Urban Subscriber
Base- Sep-16 (in million)**

Service Area	Total Subscribers	Rural Subscribers	Urban Subscribers	% of Rural Subscribers
Andhra Pradesh	1.65	0.32	1.33	19.32
Assam	0.16	0.03	0.13	18.11
Bihar	0.32	0.09	0.24	26.37
Delhi	3.20	-	3.20	-
Gujarat	1.35	0.20	1.15	14.60
Haryana	0.35	0.07	0.28	20.73
Himachal Pradesh	0.16	0.10	0.06	62.91
Jammu & Kashmir	0.13	0.02	0.11	13.13
Karnataka	2.23	0.19	2.03	8.72
Kerala	2.15	1.34	0.81	62.13
Madhya Pradesh	1.03	0.12	0.91	11.77
Maharashtra	1.88	0.35	1.54	18.39
Mumbai	3.01	-	3.01	-
North East	0.12	0.03	0.10	20.82
Orissa	0.29	0.07	0.23	22.40
Punjab	1.03	0.26	0.77	25.22
Rajasthan	0.76	0.13	0.63	17.59
T.N. (incl. Chennai)	2.54	0.36	2.18	14.27
U.P.(E)	0.50	0.07	0.43	14.28
U.P.(W)	0.41	0.04	0.37	10.29
Kolkata	0.87	-	0.87	-
West Bengal	0.34	0.15	0.19	42.70
All India	24.49	3.92	20.57	16.01

Table 1.22: Service Area wise Wireline Teledensity

Service Area	As on 30 th June, 2016			As on 30 th September, 2016		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Andhra Pradesh	0.53	5.40	1.89	0.50	5.36	1.86
Assam	0.10	2.46	0.48	0.10	2.44	0.48
Bihar	0.07	1.26	0.24	0.07	1.24	0.23
Delhi	-	-	14.82	-	-	14.79
Gujarat	0.55	4.32	2.13	0.53	4.27	2.10
Haryana	0.43	2.81	1.29	0.42	2.78	1.28
Himachal Pradesh	1.65	6.98	2.27	1.56	6.89	2.19
Jammu & Kashmir	0.19	3.19	1.03	0.19	3.21	1.04
Karnataka	0.53	8.37	3.59	0.51	8.31	3.55
Kerala	5.22	9.10	6.20	4.99	8.97	5.99
Madhya Pradesh	0.16	3.17	0.99	0.16	3.17	0.99
Maharashtra (incl. Mumbai)*	0.57	7.70	4.03	0.55	7.60	3.98
North East	0.25	2.75	0.88	0.24	2.74	0.88
Orissa	0.19	2.99	0.69	0.19	2.97	0.68
Punjab	1.56	5.67	3.37	1.50	5.62	3.32
Rajasthan	0.25	3.58	1.06	0.24	3.53	1.04
Tamil Nadu (incl. Chennai)	1.33	5.13	3.61	1.28	5.07	3.57
Uttar Pradesh (incl. UPE & UPW)	0.07	1.52	0.40	0.06	1.50	0.39
West Bengal (incl. Kolkata)*	0.23	3.96	1.30	0.21	3.90	1.27
All India	0.47	5.20	1.94	0.45	5.15	1.92

* Population data/projections are available state-wise only

- Note: 1. Teledensity figures are derived from the subscriber data provided by the operators and the population projections, for Urban and Rural areas, of the country, published by the Office of the Registrar General & Census Commissioner, India.
2. Data/information for Andhra Pradesh includes Telengana, Madhya Pradesh includes Chhatisgarh, Bihar includes Jharkhand, Maharashtra includes Goa, Uttar Pradesh includes Uttarakhand, West Bengal includes Sikkim and North-East includes Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland & Tripura states.

Public Call Offices (PCO)

1.31 Total number of PCOs in the country declined from 5.26 lakh at the end of Jun-16 to 5.08 lakh at the end of Sep-16. Detailed table of service provider wise PCOs is available at Annexure -1.4.

Chart 1.11: Trend of Number of PCOs

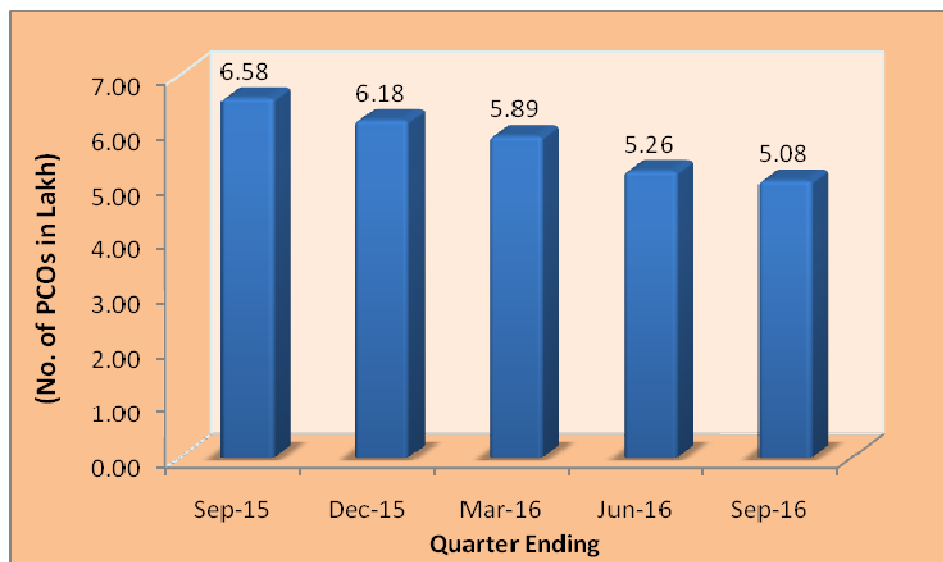


Table 1.23 : Rate of change & Market share of PCOs

Service Provider	Jun-16	Sep-16	Rate of change (%)	Market share (%) (Sep-16)
BSNL	3.31	3.10	-6.39	60.90
MTNL	1.33	1.31	-1.03	25.82
Bharti	0.17	0.16	-3.88	3.15
Quadrant	0.019	0.018	-6.34	0.36
Sistema	0.10	0.10	0.00	1.91
Tata	0.27	0.24	-9.25	4.81
Reliance	0.07	0.16	119.78	3.06
Total	5.26	5.08	-3.29	100

1.32 Number of PCOs continued shows declining trend during the quarter ending Sep-16. This quarter has recorded a overall decline of 3.29%. However, M/s Reliance showed positive growth in its number of PCOs during the quarter. The year-on-year (Y-O-Y) decline rate over the same quarter of the last year is 22.77%.

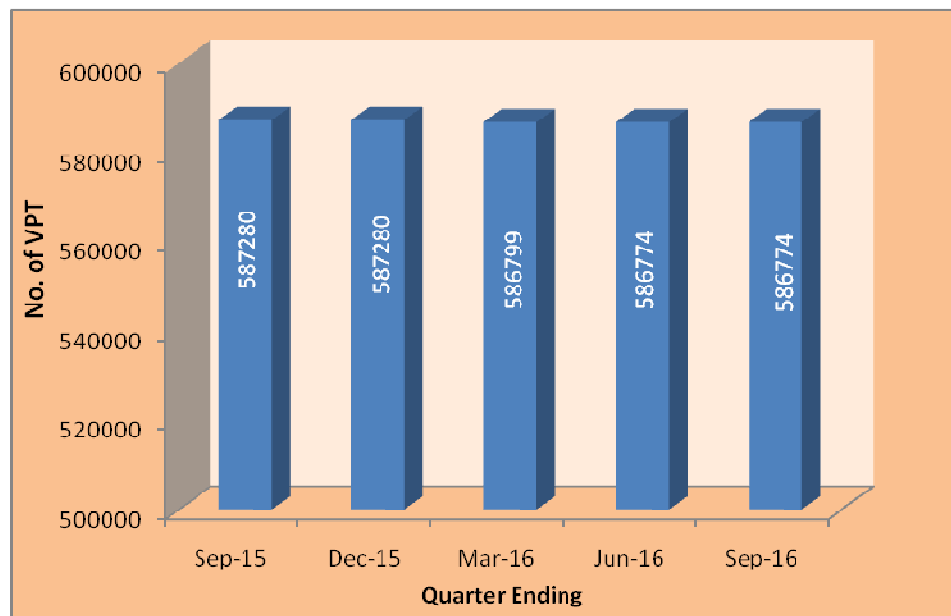
Village Public Telephones (VPTs)

1.33 There are 5,93,731 inhabited villages in India as per census 2001. At the end of the quarter, 98.83% of the total inhabited villages in India have been connected by VPTs.

1.34 Number of VPTs remained same at the end of Sep-16 as against the previous quarter i.e. 5,86,774.

1.35 BSNL (5,82,482) has 99.26% market share of total VPTs followed by Sistema (3,010) with 0.51%. Detailed table of VPT is available at Annexure -1.5.

Chart 1.12: Growth/decline Trend in VPTs



Section D: Internet Service

1.36 This section summarizes information submitted by 144 operators for the quarter ending Sep-16. **Part-I** consists of information of Internet service (both narrowband and broadband), **Part-II** consists of broadband service and **Part-III** covers narrowband service.

Part-I : Internet Service (broadband + narrowband)

1.37 As per reports received from operators, total number of internet subscribers increased from 350.48 million at the end of Jun-16 to 367.48 million at the end of Sep-16 with quarterly growth rate of 4.85%.

1.38 Wired Internet subscribers increased from 20.76 million at the end of Jun-16 to 21.26 million at the end of Sep-16 with quarterly growth of 2.40%, and Wireless Internet subscribers increased from 329.72 million at the end of Jun-16 to 346.22 million at the end of Sep-16 with quarterly growth rate of 5.01%.

1.39 Number of Broadband subscribers increased from 162.06 million at the end of Jun-16 to 192.30 million at the end of Sep-16. The number of Narrowband subscribers declined from 188.42 million at the end of Jun-16 to 175.18 million at the end of Sep-16.

Table 1.24: Trend of Internet subscriber base

Segment	Mode of Access								Total Subscribers (in million)	
	Wired Subscribers (in million)		Wireless Subscribers (in million)							
			Fixed Wireless (Wi-Fi, Wi-Max, Radio & VSAT)		Mobile Wireless (Phone + Dongle)		Total Wireless			
	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16
Broadband	17.32	17.84	0.548	0.597	144.19	173.87	144.74	174.46	162.06	192.30
Narrowband	3.44	3.42	0.027	0.027	184.95	171.73	184.98	171.76	188.42	175.18
Total	20.76	21.26	0.576	0.624	329.14	345.60	329.72	346.22	350.48	367.48

1.40 The following charts present the composition of Internet Subscribers by mode of access and composition of Broadband & Narrowband subscription.

Chart 1.13: Composition of Internet subscription

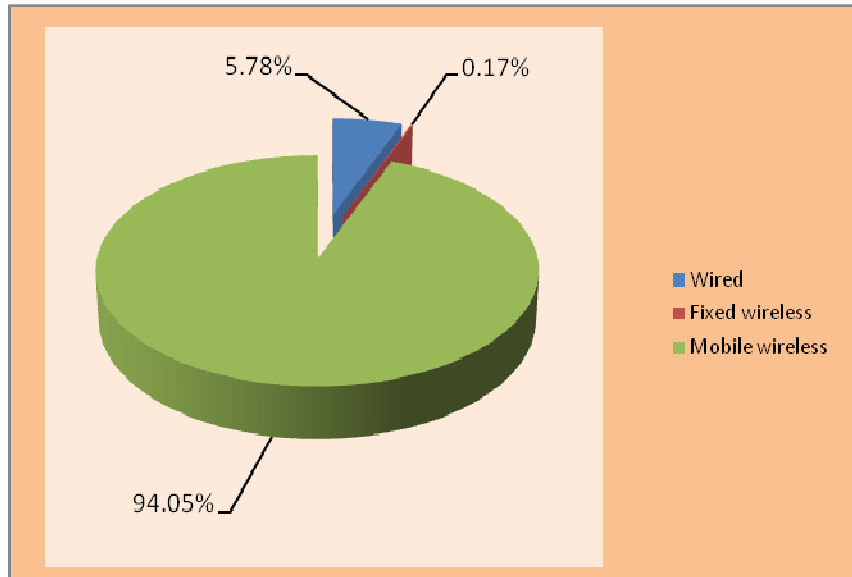
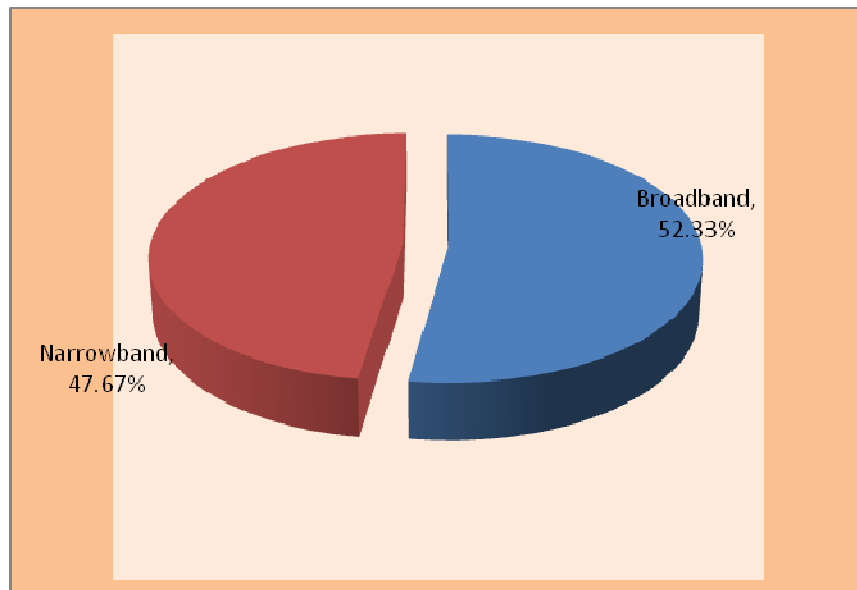


Chart 1.14 : Composition of Broadband & Narrowband subscription



1.41 The urban/rural break up of internet subscribers are as per the following table.

Table 1.25: Break up of Rural-Urban internet subscriber base

[Subscribers in Millions]

Telecom Service Area	Narrowband (Sep-16)		Broadband (Sep-16)		Total Internet (Sep-16)		Total Internet (Jun-16)	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Andhra Pradesh	5.25	7.36	4.43	10.42	9.68	17.78	9.60	16.26
Assam	2.60	1.00	1.22	2.43	3.82	3.43	3.31	3.41
Bihar	7.21	6.40	2.26	5.27	9.46	11.67	8.96	11.10
Delhi	0.33	7.43	0.34	14.16	0.67	21.59	0.93	20.49
Gujarat	4.06	6.34	2.88	9.89	6.94	16.23	6.15	15.57
Haryana	1.71	1.88	1.69	3.02	3.40	4.90	2.73	4.77
Himachal Pradesh	1.05	0.75	0.82	0.67	1.86	1.42	1.80	1.29
Jammu & Kashmir	0.47	0.53	0.21	0.57	0.68	1.10	1.83	1.72
Karnataka	3.46	5.67	2.22	12.62	5.68	18.29	5.44	17.12
Kerala	2.45	2.90	4.09	6.82	6.54	9.73	5.60	9.23
Kolkata	0.18	3.99	0.31	5.64	0.49	9.63	0.53	8.79
Madhya Pradesh	5.09	5.92	1.75	9.49	6.84	15.40	6.79	14.19
Maharashtra	6.01	7.92	4.28	12.41	10.30	20.33	9.99	20.37
Mumbai	0.17	6.10	0.15	10.15	0.32	16.25	0.26	15.54
North East	1.37	0.89	0.82	1.26	2.18	2.15	2.03	2.09
Orissa	3.01	1.90	0.87	3.27	3.88	5.17	3.85	4.57
Punjab	2.90	4.16	1.75	5.91	4.64	10.08	4.66	8.98
Rajasthan	5.24	5.64	2.28	5.19	7.52	10.83	7.01	10.77
Tamil Nadu	3.31	8.59	3.67	13.61	6.97	22.21	6.58	21.38
Uttar Pradesh(East)	9.20	6.76	3.12	5.41	12.32	12.18	11.72	12.27
Uttar Pradesh(West)	5.10	5.43	1.64	4.78	6.75	10.21	6.40	10.57
West Bengal	5.43	2.01	3.39	5.11	8.83	7.12	7.56	6.29
Total	75.60	99.58	44.19	148.11	119.79	247.69	113.71	236.77

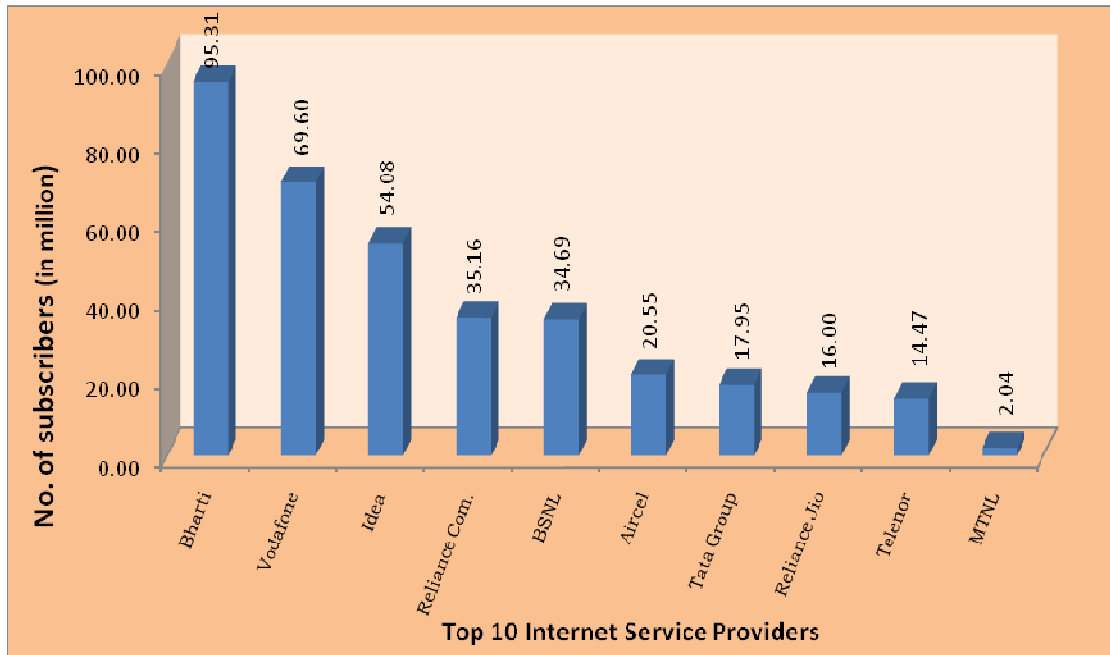
Table 1.26: Internet Subscriber Base and Market Share of top 10 Service Providers – Sep-16

S.No	ISP	No. of Subscribers	Share (%)
1	Bharti Airtel Limited	95314093	25.94
2	Vodafone	69600240	18.94
3	Idea Cellular	54081385	14.72
4	Reliance Communications	35158015	9.57
5	BSNL	34693290	9.44
6	Aircel Ltd	20551313	5.59
7	Tata Teleservices	17951292	4.88
8	Reliance Jio Infocomm Ltd	16003520	4.35
9	Telenor	14468381	3.94
10	MTNL	2039911	0.56
	Total of Top 10 ISPs	359861440	97.93
	Others	7621639	2.07
	Grand Total	367483079	100

1.42 Bharti holds the top position with 25.94% of market share of internet subscribers followed by Vodafone with 18.94%. Top 10 Service Providers together hold 97.93% of total internet subscriber base at the QE Sep-16. Detailed table of number of subscriber base of all the service providers is available at Annexure-1.6.

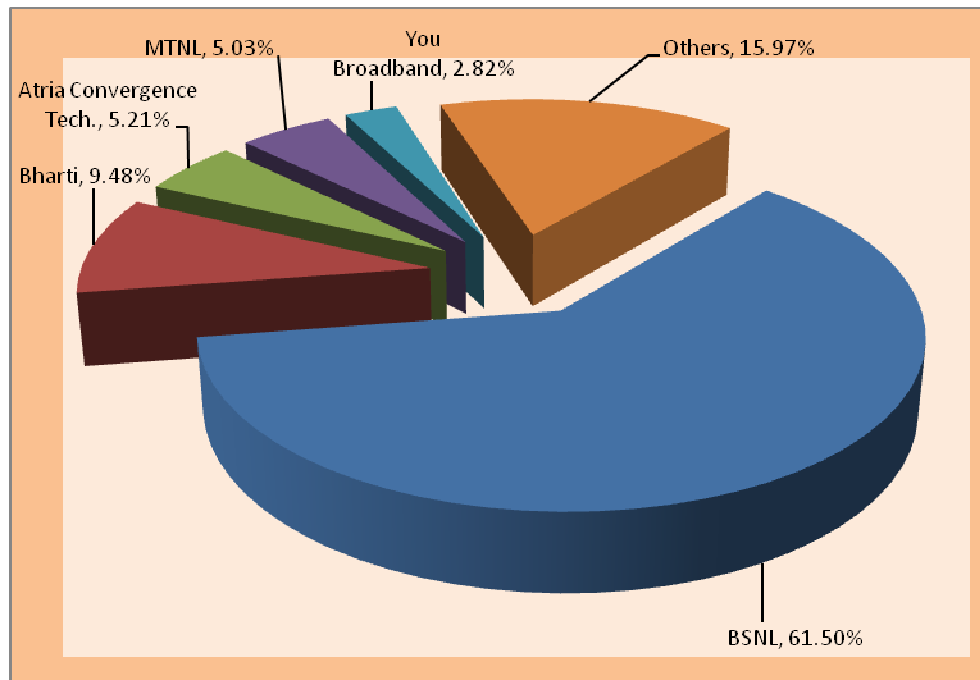
1.43 The following chart depicts the subscriber base of top ten ISPs in the QE Sep-16.

Chart 1.15 : Subscriber base of top ten ISPs



1.44 In wired internet segment, BSNL holds 61.50% market share with 13.07 million subscribers, followed by Bharti with 2.02 million subscribers. Total number of wired internet subscriber is 21.26 million at the end of Sep-16.

Chart 1.16 : Composition of Wired Internet subscribers



1.45 In wireless internet segment, Bharti holds 26.95% market share with 93.30 million subscribers followed by Vodafone (69.59 million internet subscribers).

Chart 1.17 : Composition of Wireless Internet subscription

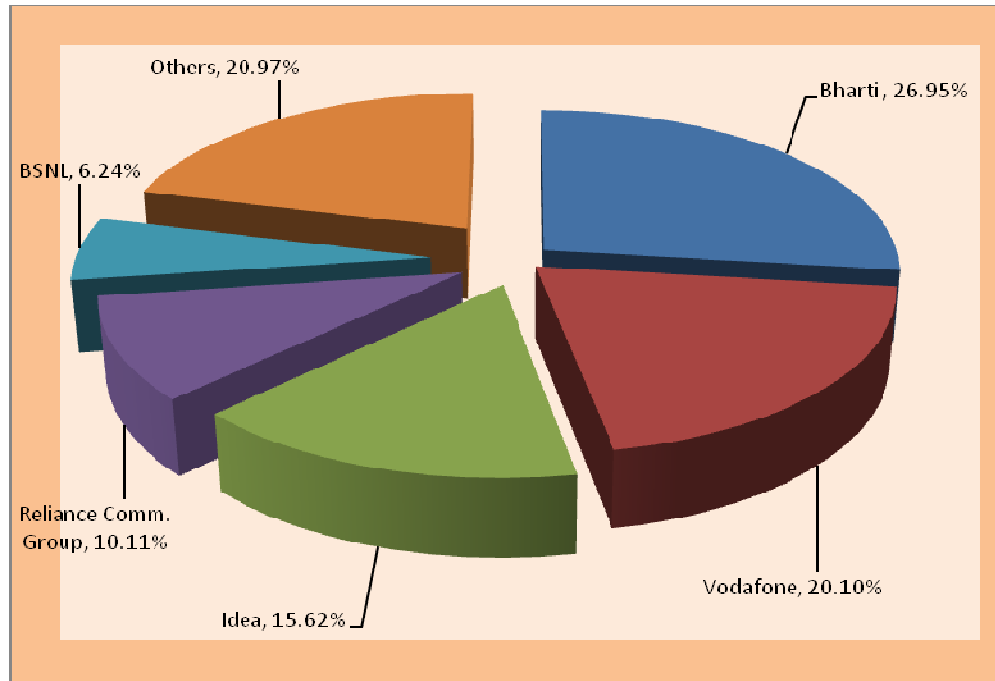


Chart 1.18 : Technology trend for Wireless Internet Access – Sep-16

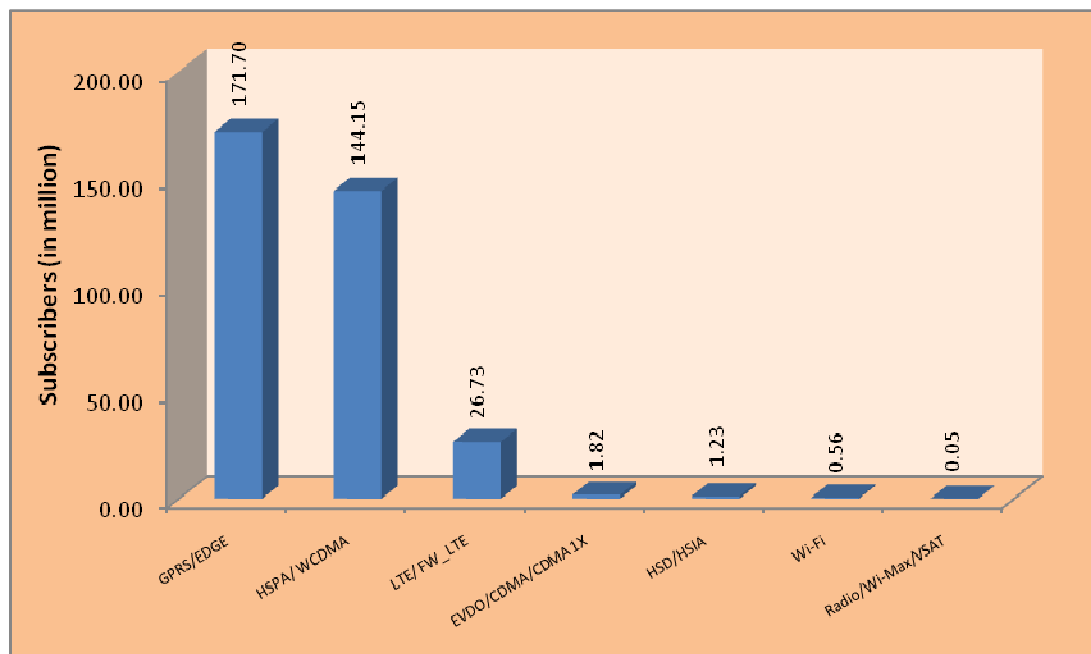
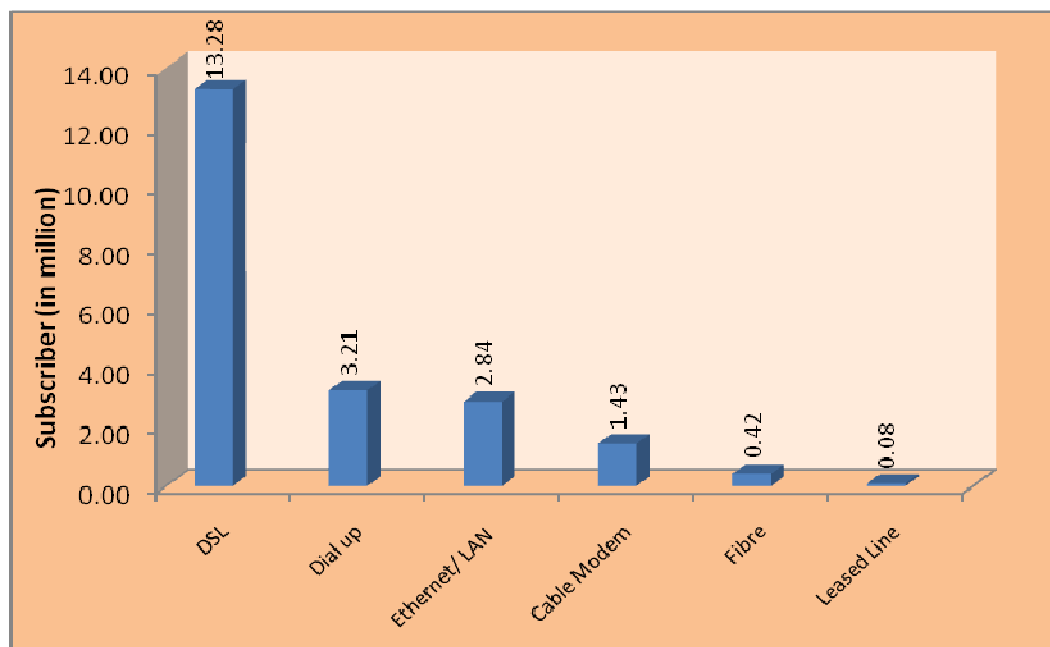


Chart 1.19 : Technology trend for Wired Internet Access – Sep-16



1.46 Top five service areas in terms of internet subscriptions (wired + wireless) are Maharashtra (30.62 million), Tamil Nadu including Chennai (29.18 million), Andhra Pradesh (27.46 million), U.P.(E) (24.50 million) and Karnataka (23.96 million).

Table 1.27 : Service Area wise number of Internet Subscribers per 100 population at the end of Sep-16

Service Area	Internet Subscribers (in million)			Internet subscribers per 100 population		
	Rural	Urban	Total	Rural	Urban	Total
Andhra Pradesh	9.68	17.78	27.46	15.14	71.67	30.94
Assam	3.82	3.43	7.25	13.95	64.81	22.20
Bihar	9.46	11.67	21.13	7.93	61.00	15.26
Delhi	-	-	22.27	-	-	102.89
Gujarat	6.94	16.23	23.17	18.72	60.29	36.21
Haryana	3.40	4.90	8.30	19.32	48.52	29.95
Himachal Pradesh	1.86	1.42	3.29	29.66	169.19	46.12
Jammu & Kashmir	0.68	1.10	1.78	7.59	31.39	14.25
Karnataka	5.68	18.29	23.96	14.86	74.73	38.23
Kerala	6.54	9.73	16.27	24.42	107.16	45.36

Service Area	Internet Subscribers (in million)			Internet subscribers per 100 population		
	Rural	Urban	Total	Rural	Urban	Total
Madhya Pradesh	6.84	15.40	22.24	9.02	53.55	21.27
Maharashtra	10.30	20.33	30.62	16.82	61.17	38.39
Mumbai	0.32	16.25	16.57			
North East	2.18	2.15	4.33	20.82	60.63	30.88
Orissa	3.88	5.17	9.05	11.06	67.97	21.21
Punjab	4.64	10.08	14.72	26.74	73.42	47.35
Rajasthan	7.52	10.83	18.35	13.50	60.86	24.96
Tamil Nadu	6.97	22.21	29.18	24.68	51.60	40.93
UP (East)	12.32	12.18	24.50	10.73	42.26	17.97
UP (West)	6.75	10.21	16.96			
Kolkata	0.49	9.63	10.12	13.73	61.17	27.38
West Bengal	8.83	7.12	15.94			
Total	119.79	247.69	367.48	13.65	61.98	28.77

* Population data/projections are available state-wise only.

Notes:

1. No. of total internet subscribers per 100 population is derived from the subscriber data provided by the operators and the population projections of the country, published by the Office of the Registrar General & Census Commissioner, India.
2. Data/information for Andhra Pradesh includes Telengana, Madhya Pradesh includes Chhatishgarh, Bihar includes Jharkhand, Maharashtra includes Goa, Uttar Pradesh includes Uttarakhand, West Bengal includes Sikkim and North-East includes Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland & Tripura states.

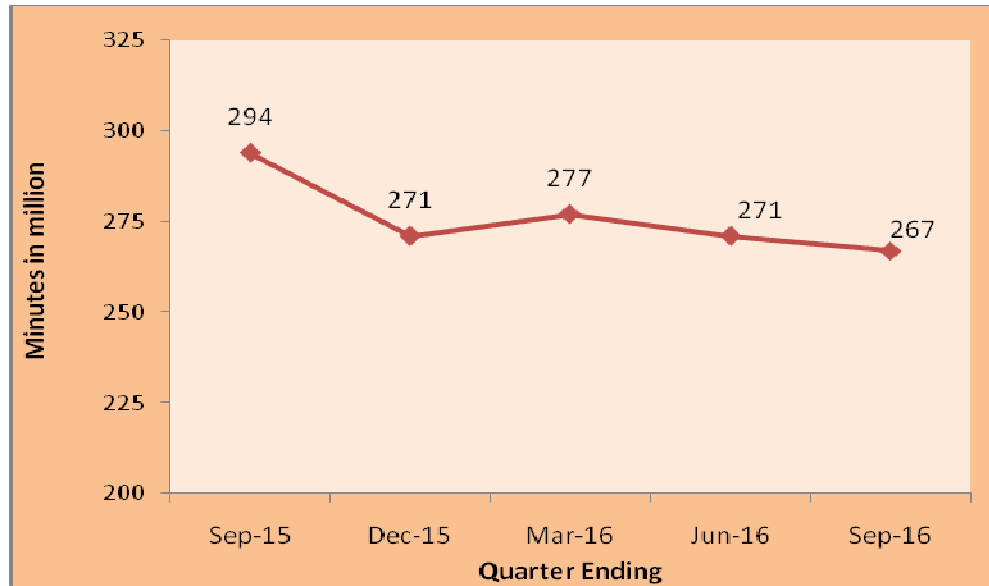
ISP Connectivity

1.47 The International Internet bandwidth owned by various service providers is reported to be 2,241 Gbps during the quarter ending Sep-16 as compared to 2,099 Gbps during the previous quarter.

Internet Telephony

1.48 As per the reports received from 16 service providers, providing Internet Telephony services, the total outgoing minutes of usage for internet telephony is 267 million during the Q.E. Sep-16. List of Internet Telephony Service providers is available at Annexure-1.7.

Chart 1.20 : Trends in MOU for Internet Telephony



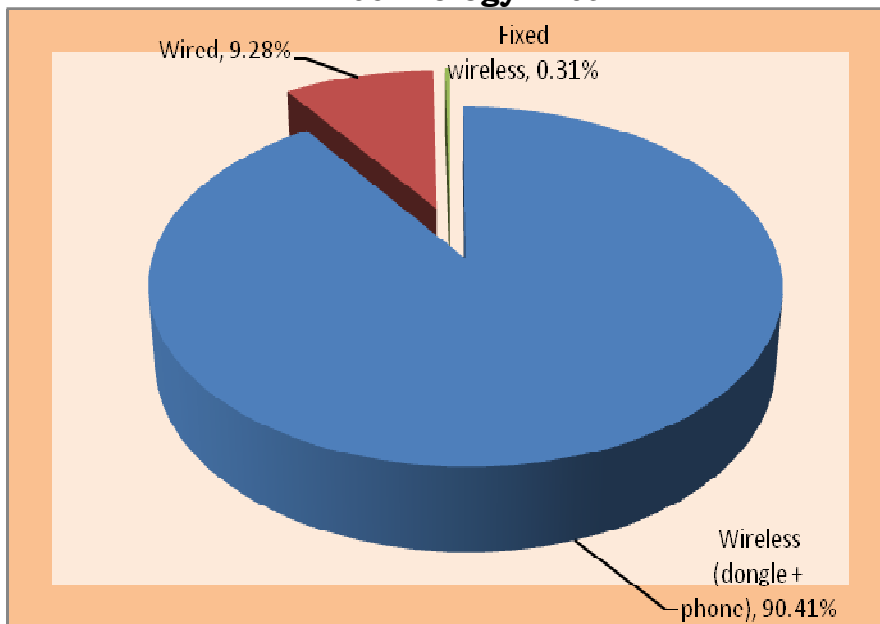
Part-II : Broadband Service (Download Speed \geq 512 Kbps)

1.49 The total number of broadband subscribers increased from 162.06 million at the end of Jun-16 to 192.30 million at the end of Sep-16. Out of which wired broadband subscribers are 17.84 million and wireless broadband subscribers are 174.46 million.

1.50 Top five broadband (wired+wireless) service providers in term of subscribers are Bharti (46.19 million), Vodafone (35.94 million), Idea (30.72 million), BSNL (21.60 million), and Reliance Communications Group (16.74 million).

- 1.51 In wired broadband segment, BSNL holds 55.39% market share with 9.88 million subscribers followed by Bharti with 1.94 million subscribers.
- 1.52 In wireless broadband segment, Bharti holds 25.37% market share with 44.25 million subscribers followed by Vodafone (20.60%) with 35.93 million subscribers.
- 1.53 Top five service areas in respect of broadband subscriptions are Tamil Nadu including Chennai (19.32 million), Maharashtra (18.13 million), Andhra Pradesh (16.90 million), Karnataka (16.56 million) and Delhi (16.06 million).

Chart 1.21 : Composition of Broadband subscription – Technology wise

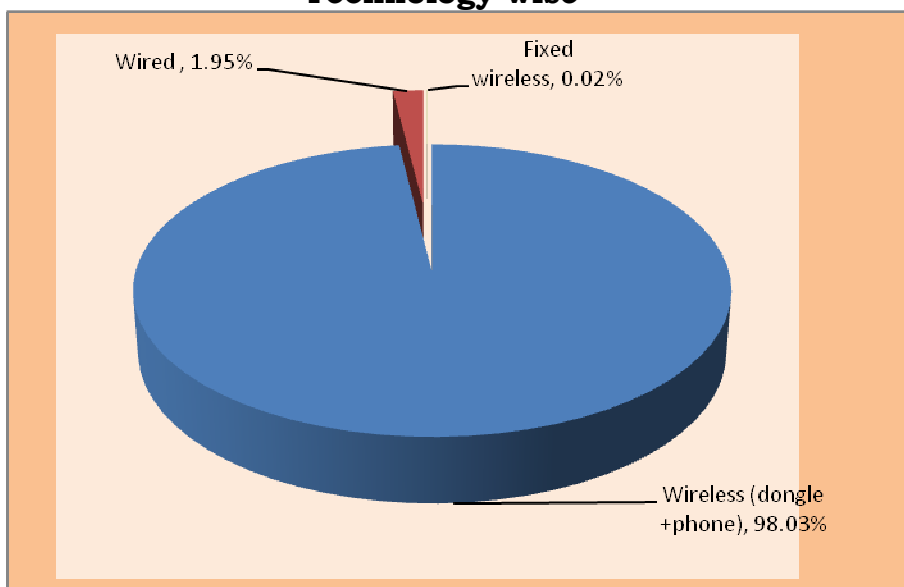


- 1.54 Mobile Device Users (dongle + phone) constitute 90.41% of total broadband subscribers at the end of Sep-16.

Part-III : Narrowband Service (Download Speed <512 Kbps)

- 1.55 Total number of narrowband subscribers declined from 188.42 million at the end of Jun-16 to 175.18 million at the end of Sep-16 with the quarterly decline rate of 7.03%. Out of 175.18 million narrowband subscribers, Wired Narrowband subscribers are 3.42 million and Wireless Narrowband subscribers are 171.76 million.
- 1.56 The top five narrowband (wired + wireless) service providers in term of subscriber base are Bharti (49.12 million), Vodafone (33.66 million), Idea Cellular (23.36 million), Reliance Communications Group (18.42 million) and Telenor (14.42 million).
- 1.57 In wired narrowband segment, BSNL holds 93.36% market share with 3.20 million subscribers followed by Bharti Airtel (0.08 million).
- 1.58 In wireless narrowband segment, Bharti holds 28.55% market share with 49.04 million subscribers followed by Vodafone (33.66 million).

Chart 1.22 : Composition of Narrowband subscription – Technology wise



Section E : Other Value Added Services - PMRTS & VSAT

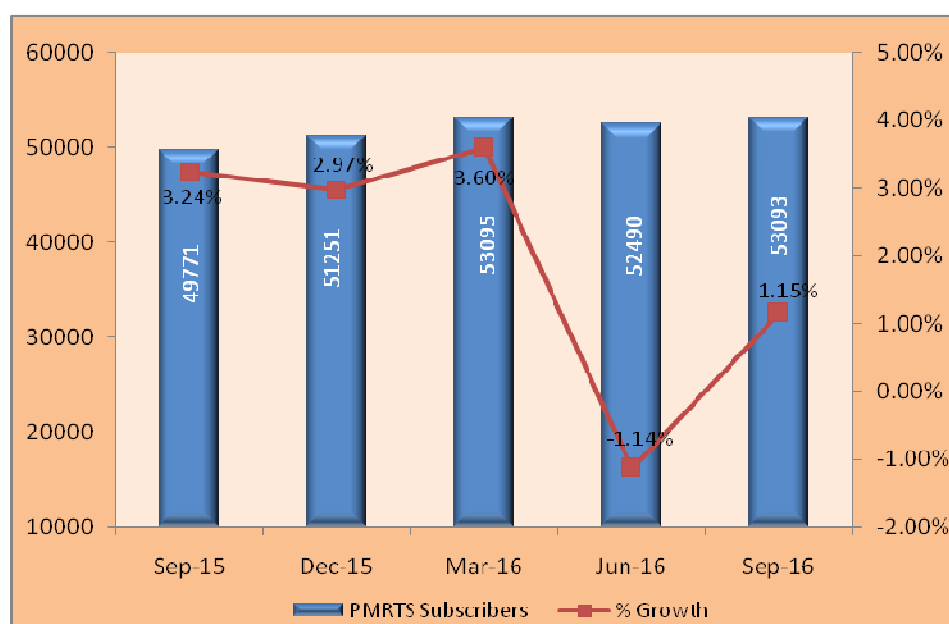
Public Mobile Radio Trunk Services (PMRTS)

1.59 The subscriber base of PMRTS increased from 52,490 at the end of Jun-16 to 53,093 at the end of Sep-16 with quarterly growth rate of 1.15%.

Table 1.28 : PMRTS Subscriber base - Service Provider wise

Sr. No.	Name of the Service Provider	Subscriber Base as on 30.06.2016	Subscriber Base as on 30.09.2016	Growth in Subscribers	% Growth in subscribers as on 30.09.2016
1	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	44408	44925	517	1.16
4	Procall Ltd.	2860	2866	6	0.21
2	Inative Networks Pvt Ltd	1820	1820	0	0.00
3	Quick Call	1456	1469	13	0.89
5	Smartlink Pvt Ltd	927	970	43	4.64
6	Bhilwara Telenet Services Pvt Ltd	506	524	18	3.56
7	Wiwonet Solutions Pvt Ltd	264	269	5	1.89
8	Airtalk Solutions & Services Pvt Ltd	249	250	1	0.40
	Total	52490	53093	603	1.15

Chart 1.23 : Number of PMRTS subscribers & Rate of Growth (%)



1.60 Detailed table on Service Area wise subscriber base of PMRTS is available at Annexure-1.8.

Very Small Aperture Terminal (VSAT)

1.61 The total number of VSAT subscribers increased from 2,77,114 at the end of Jun-16 to 2,80,880 at the end of Sep-16. Net addition during the quarter has been 3,766 at the quarterly growth rate of 1.36%.

Table 1.29 : VSAT Service Providers currently providing service & their subscriber base

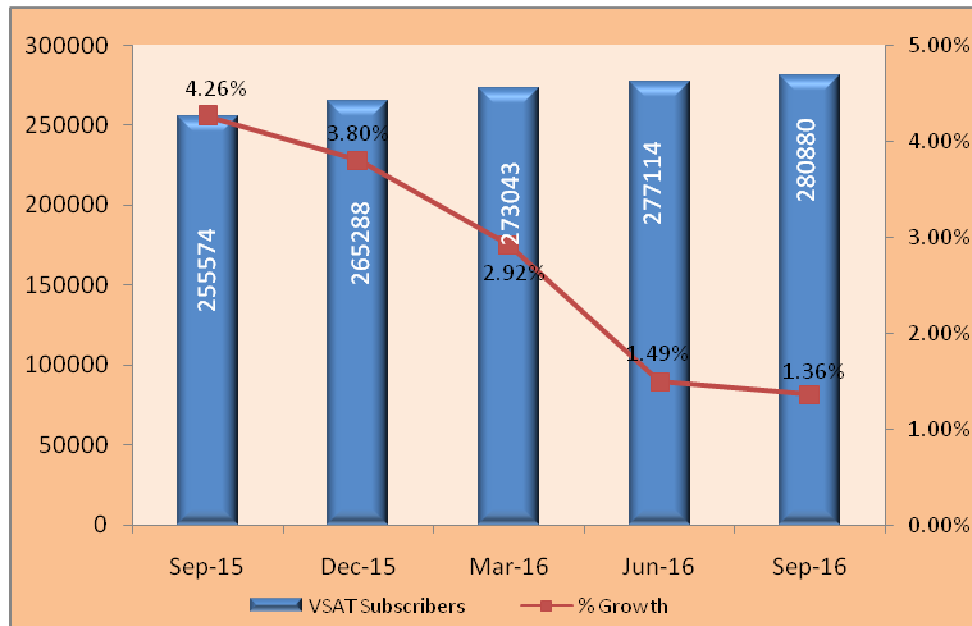
Sr. No	Name of Service Providers	Subscriber base at the Quarter ending		Net Addition	%age Growth	Market Share (%) Sep-16
		Jun-16	Sep-16			
1	Hughes Communications Ltd.	106548	107665	1117	1.05	38.33
2	Bharti Airtel Limited,	64893	66793	1900	2.93	23.78
3	Tatanet Services	51805	52725	920	1.78	18.77
4	HCL Comnet	28080	28097	17	0.06	10.00
5	BSNL	20907	20636	-271	-1.30	7.35
6	National Informatics Centre Services Incorporated (NICSI)	2637	2812	175	6.64	1.00
7	Infotel Satcom	2150	2058	-92	-4.28	0.73
8	Planetcast Media Services Ltd	94	94	0	0.00	0.03
	Total	277114	280880	3766	1.36	100

1.62 Hughes Communication Limited continues to be the market leader with subscriber base of 1,07,665 followed by Bharti Airtel Ltd (66,793) at the end of Sep-16.

1.63 M/s NICS I has recorded maximum growth rate of 6.64% followed by M/s Bharti Airtel Ltd (2.93%). M/s BSNL and Infotel Satcom showed decline in number of VSAT subscribers during this quarter.

1.64 The following chart depicts the trend of VSAT subscriber base and its quarterly growth rate.

Chart 1.24 : Number of VSAT Subscribers & Rate of Growth (%)



Chapter 2 :

Revenue and Usage

-
- For all the parameters, Metros indicate data for Delhi, Mumbai & Kolkata. Data for Chennai service area has been included in Circle A, as part of TN.
 - ARPU arrived after adjusting interconnect usage charges and roaming settlement charges.
 - The data contained in the section A & B covers the licensees, who have been providing service during the entire period from 1st July, 2016 to 30th September, 2016 in the various service areas.

Section A: GSM Service

Table 2.1: Key Indicators - GSM Service

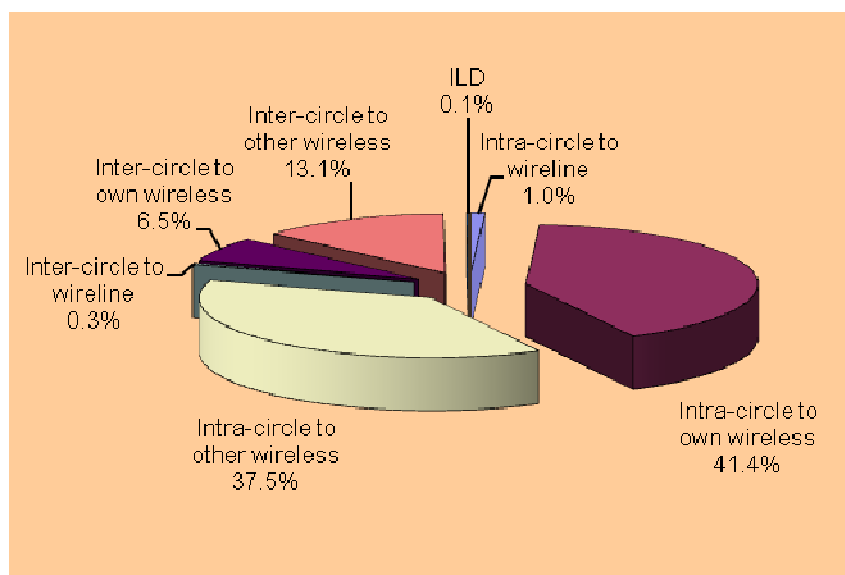
Parameter	Sep-16	Jun-16	Sep-15	QoQ %age change over Jun-16	YoY %age change over Sep-15
Subscriber Base# (million)	1012.06	996.63	948.03	1.55	6.75
Share of Prepaid (%)	95.13	95.23	95.50	-0.10	-0.39
Incoming MOU* per subscriber per month	188.09	194.60	193.05	-3.34	-2.57
Outgoing MOU* per subscriber per month	177.51	181.97	181.24	-2.45	-2.06
No. of Outgoing SMS per subscriber per month	19.45	19.52	22.52	-0.38	-13.63
Average Revenue Per User (ARPU) per month	120.98	126.05	122.17	-4.02	-0.98

The subscriber figures are as on the last day of the respective quarters

* Minutes of Usage

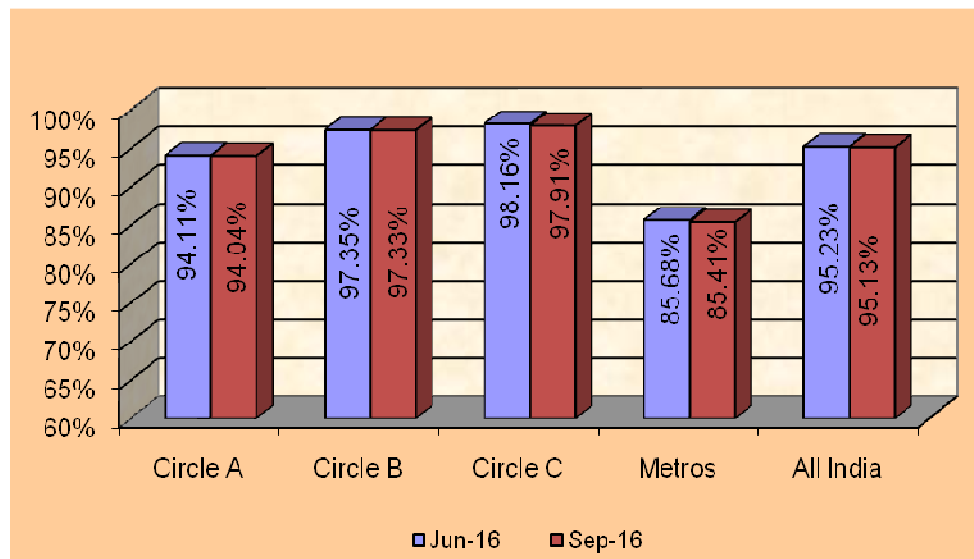
2.1 The following chart presents % break-up of outgoing minutes from Home Service Area (HSA) in the QE Sep-16.

Chart 2.1: Break-up of Outgoing minutes from Home Service Area (HSA) - GSM Service in QE Sep-16



2.2 The following chart depicts prepaid subscribers as a % of total subscribers as on the last day of the respective quarters for various categories of circles.

Chart 2.2: Proportion of prepaid subscribers - GSM Service



Note: Based on subscriber figures as on the last day of the quarter.

2.3 Market share of prepaid segment declined from 95.23% at the end of Jun-16 to 95.13% at the end of Sep-16.

2.4 The ARPU per month (all India, blended) declined from ₹126 in Q.E. Jun-16 to ₹121 in Q.E. Sep-16. The following table presents the ARPU per month for various categories of circles and various platforms for payment viz. post-paid and pre-paid.

Table 2.2: Monthly ARPU - GSM Service in QE Sep-16

Circle Category	ARPU per month (in ₹)		
	Post-paid	Pre-paid	Blended
Circle A	482	112	134
Circle B	468	98	108
Circle C	470	91	98
Metros	505	107	165
All India	485	103	121
All private SPs	486	103	122
BSNL/MTNL	470	99	112

2.5 The ARPU per month for pre-paid segment declined from ₹108 in QE Jun-16 to ₹103 in QE Sep-16, and the ARPU per month for post-paid segment also declined from ₹495 in QE Jun-16 to ₹485 in QE Sep-16.

2.6 The following table presents the composition of ARPU per month in the QE Sep-16.

Table 2.3: Composition of ARPU per month - GSM Service in QE Sep-16

S. No.	Item	Revenue (excl. service tax) per subscriber per month (in ₹)	Share of total revenue from subscribers
1	Usage from Home Service Area		
1.1.	Rental Revenue	22.70	17.7%
1.2.	Revenue from calls	60.04	46.7%
1.3.	Revenue from SMS	2.99	2.3%
1.4.	Revenue from data usage	28.55	22.2%
1.5.	Revenue from other VAS	4.94	3.8%
1.6.	Other revenue	3.31	2.6%
2	Usage outside Home Service Area		
2.1.	Revenue from outroamers	5.91	4.6%
3	Total revenue from subscribers (1+2)	128.44	100%
4	Net inter-operator settlement charges receivable *	-7.46	
5	Net Revenue (ARPU) per month(3+4)	121	

* includes Interconnect Usages Charges and roaming settlement charges

2.7 From the above table, it may be seen that the net inter-operator settlement charges payable (₹7.46) accounts for 5.81% of the total revenue from subscribers.

2.8 On an all India average, the overall minutes of usage (MOU) per subscriber per month declined from 377 in QE Jun-16 to 366 in QE Sep-16.

2.9 The following table presents the total MOU (usage from, and outside, the home service area) per subscriber per month for various categories of circles.

Table 2.4: MOU per subscriber per month - GSM Service in QE Sep-16

Circle category	MOU per subscriber per month								
	Postpaid			Prepaid			Blended		
	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU
Circle A	524	387	911	159	160	320	181	174	355
Circle B	551	367	919	153	188	341	164	192	356
Circle C	545	349	894	167	210	377	174	213	387
Metro	488	327	816	183	159	341	227	183	410
All India	521	363	885	160	179	339	178	188	366

Note: MOU indicates total usage i.e. usage from and outside HSA

2.10 The overall ratio of incoming MOU and outgoing MOUs for the QE Sep-16 is 51.4 : 48.6.

2.11 Number of outgoing SMS per subscriber per month declined from 20 in Q.E. Jun-16 to 19 in Q.E. Sep-16. The following table presents the outgoing SMS usage (usage from, and outside, the home service area) per subscriber per month for various categories of circles and various platforms for payment viz. post-paid and pre-paid.

Table 2.5: No. of Outgoing SMS per subscriber per month - GSM Service in QE Sep-16

Circle category	Outgoing SMS per subscriber month		
	Postpaid	Prepaid	Blended
Circle A	49	26	27
Circle B	43	16	17
Circle C	26	12	12
Metro	29	12	14
All India	41	18	19

Note: No. of Outgoing SMS indicate total usage i.e. usage from and outside HSA

Chart 2.3 : Minutes of Usage by Out-roamers as a % of Total Minutes of Usage in QE Sep-16

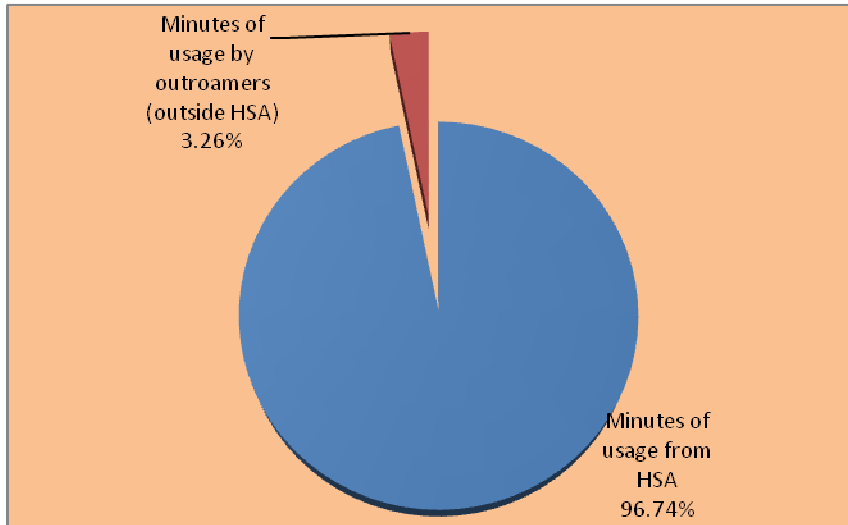
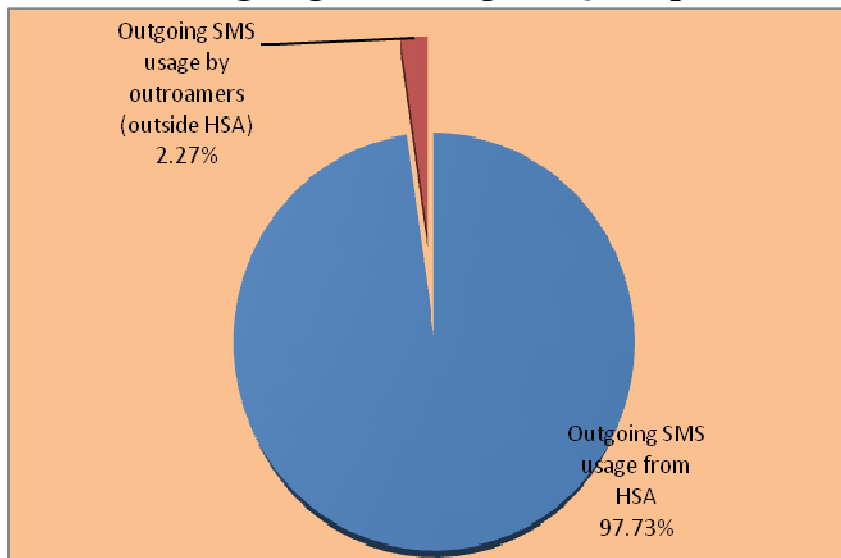


Chart 2.4: Outgoing SMS Usage by Out-roamers as a % of Total No. of Outgoing SMS Usage in QE Sep-16



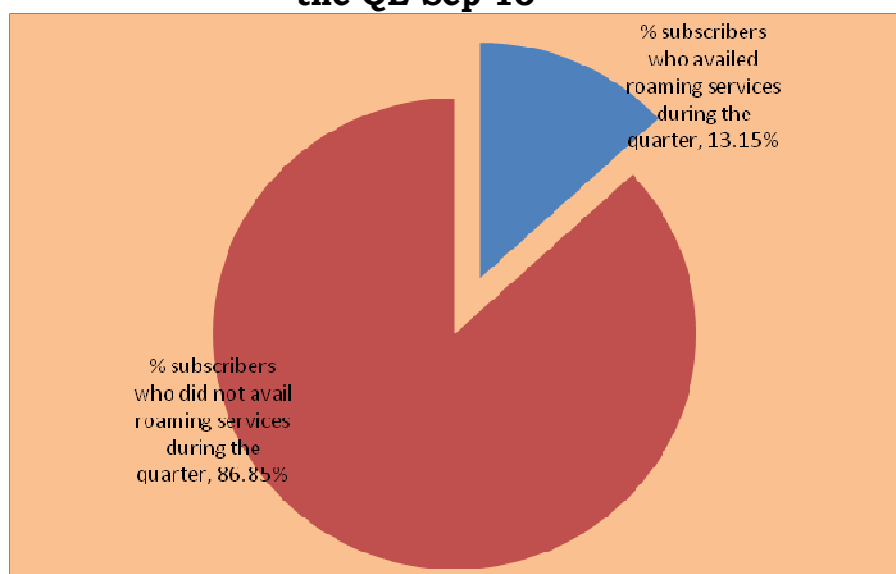
2.12 The following table presents the percentage break-up of outgoing minutes of usage from home service area between various categories of termination networks.

Table 2.6: %Break-up of Outgoing minutes from Home Service Area (HSA) in QE Sep-16

Circle Category	% Intra-circle to wireline	% Intra-circle to own wireless	% Intra-circle to other wireless	% Inter-circle to wireline	% Inter-circle to own wireless	% Inter-circle to other wireless	% ILD
Circle A	1.15	38.35	42.28	0.26	5.08	12.75	0.13
Circle B	0.73	46.51	36.32	0.31	5.36	10.69	0.08
Circle C	0.46	49.55	32.55	0.24	6.09	10.94	0.18
Metros	1.79	23.85	33.29	0.66	15.27	24.89	0.26
All India	0.96	41.41	37.53	0.32	6.52	13.12	0.13

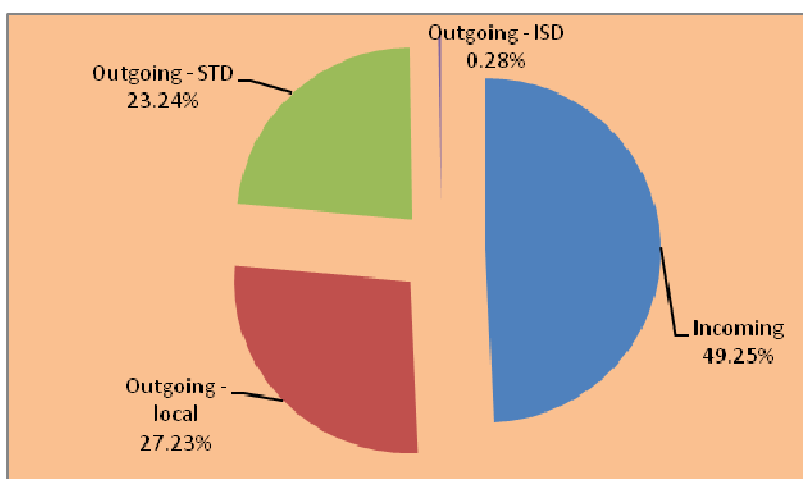
2.13 The chart given below presents the percentage of subscribers who availed roaming services (out-roamers) during the quarter ending Sep-16.

Chart 2.5: % subscribers who availed roaming services during the QE Sep-16



2.14 The usage pattern of out-roamers i.e. usage from outside the home service area shows that incoming minutes accounts for 49.25% of the total minutes of usage by out-roamers in QE Sep-16 as against 48.31% in the previous quarter. The chart given below presents the break-up of minutes of usage of out-roamers during the QE Sep-16.

Chart 2.6: % Break-up of minutes of usage of outroamers (usage from outside the Home Service Area) in QE Sep-16



2.15 The tariff plans are of bundled nature and the trade-off is generally between monthly fixed charges and variable (call) charges. Therefore, average subscriber outgo per outgoing minute for usage from Home Service Area (HSA*) as defined below would be a realistic indicator of average tariff.

$$\text{*Average Subscriber Outgo per Outgoing Minute for usage from HSA} = \frac{\text{Rental revenue} + \text{revenue from outgoing calls from HSA}}{\text{No. of outgoing minutes from HSA}}$$

Table 2.7: Average subscriber outgo per outgoing minute from HSA for GSM Service in QE Sep-16

Circle Category	₹ per minute)		
	Postpaid	Prepaid	Blended
Circle A	0.50	0.52	0.52
Circle B	0.49	0.46	0.46
Circle C	0.57	0.39	0.40
Metros	0.59	0.53	0.55
All India	0.52	0.48	0.48

2.16 All India average subscriber outgo per outgoing minute declined from ₹ 0.49 in the QE Jun-16 to ₹ 0.48 in the QE Sep-16.

Table 2.8: Trends of Key Parameters - GSM Service

Parameter	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16
1. ARPU (₹ Per month)	122	123	125	126	121
3. Average Revenue from data usage per subscriber per month (in ₹)	27	28	28	29	29
3. MOU per subscriber per month	374	376	381	377	366
4. Outgoing MOU per subscriber per month					
4.1 Local (Intra-circle)	145	146	147	145	140
4.2 NLD (inter-circle)	37	36	37	36	37
4.3 ILD	0.20	0.24	0.25	0.20	0.30
5. No. of Outgoing SMS per subscriber per month	22	23	22	20	19
6. Average subscriber Outgo per outgoing minute from HSA (in ₹)	0.48	0.47	0.48	0.49	0.48

2.17 Service Area wise statistics are available at Annexure-2.1.

Section B: CDMA - Full Mobility Service

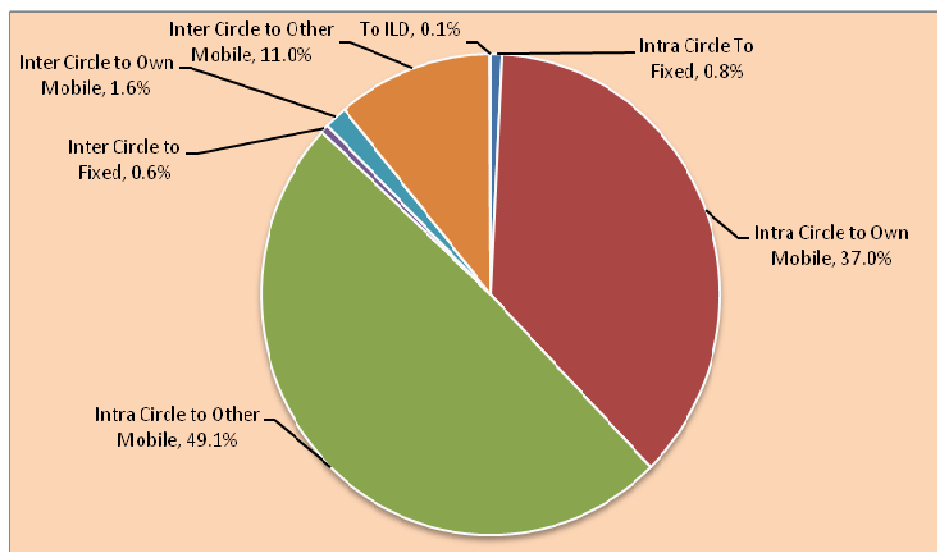
Table 2.9: Key Indicators - CDMA Full Mobility Service

Parameters	QE Sep-16	QE Jun-16	QE Sep-15	QoQ change (%)	YoY change (%)
Subscriber Base in Millions*	12.94	32.50	39.22	-60.20	-67.02
Share of Prepaid (%)	86.07%	88.7%	88.46%	-2.94	-2.71
Incoming MOUs per subscriber per month	123.80	97.77	112.09	26.63	10.44
Outgoing MOUs per subscriber per month	145.08	129.95	144.38	11.64	0.48
Outgoing SMS per subs per month	3.21	6.85	8.67	-53.20	-62.99
ARPU (₹ per month)	154.05	98.51	106.21	56.38	45.05

* The subscriber figures are as on last day of the quarter.

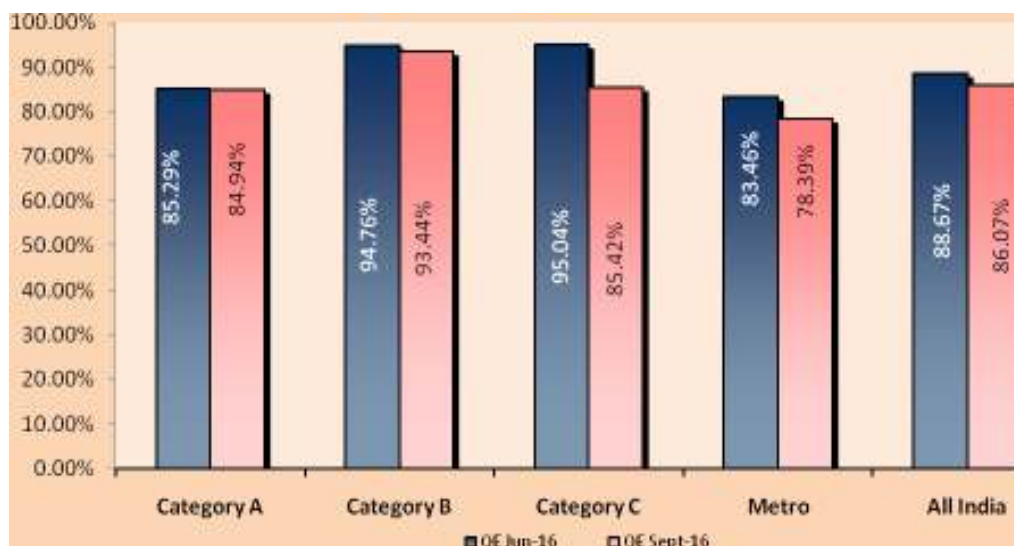
2.18 The following chart depicts % break-up of outgoing minutes from home service area (HSA).

Chart 2.7: % Break-up of Outgoing Minutes from Home Service Area (HSA) - CDMA Full Mobility Service in QE Sep-16



2.19 The following chart depicts prepaid subscribers as a % of total subscribers as on the last day of the respective quarters for various categories of circles.

Chart 2.8: Proportion of prepaid subscribers – CDMA Full Mobility Service



2.20 Market share of Prepaid segment declined from 88.67% in QE Jun-16 to 86.07% in QE Sep-16.

2.21 The following table presents the ARPU per month for various categories of circles and various platforms for payment viz. postpaid and prepaid.

Table 2.10: Monthly ARPU - CDMA Full Mobility Service in QE Sep-16

(₹ per month)

Circle category	Postpaid	Prepaid	Blended ARPU
Circle A	656	91	174
Circle B	585	72	106
Circle C	592	73	147
Metro	635	75	192
All India	631	78	154

2.22 The All India blended Average Revenue Per User (ARPU) per month has shown a increased of 56.38% from ₹98.51 in QE Jun-16 to ₹154.05 in QE Sep-16.

2.23 ARPU for Prepaid service increased from ₹49 in QE Jun-16 to ₹78 in QE Sep-16. ARPU for Postpaid service also increased from ₹474 in QE Jun-16 to ₹631 in QE Sep-16.

Table 2.11: Composition of ARPU per month- CDMA Full Mobility Service

S. No.	Item	Revenue (excl. service tax) per subscriber per month (in ₹)	% Share of total revenue from subscribers
1	Usage from Home Service Area		
1.1	Rental Revenue	23.61	14.83
1.2	Revenue from Calls	33.88	21.27
1.3	Revenue from SMS#	0.55	0.34
1.4	Revenue from data usage	90.87	57.06
1.5	Revenue from other VAS	1.81	1.14
1.6	Other Revenue#	6.99	4.39
2	Usage Outside Home Service Area		
2.1	Revenue from Out-roamers	1.55	0.98
3	Total Revenue from Subscribers (1+2)	159.26	100
4	Net inter-operator settlement charges receivable*	-5.22	
5	Net Revenue (ARPU) (3+4)	154.05	

* Includes Interconnect Usage Charges and roaming settlement charges

2.24 From the above table, it may be seen that the net inter-operator settlement charges payable (₹5.22) accounts for 3.27% of total revenue from subscribers in QE Sep-16.

2.25 Revenue from data usage per subscriber per month (for usage from HSA) declined from ₹ 48.91 in QE Jun-16 to ₹ 90.87 in QE Sep-16.

2.26 The total MOUs per subscriber per month increased by 18.08%, from 228 in QE Jun-16 to 269 in QE Sep-16. Outgoing MOUs increased from 130 in QE Jun-16 to 145 in QE Sep-16 and incoming MOUs also increased from 98 in QE Jun-16 to 124 in QE Sep-16.

2.27 Prepaid MOUs per subscriber per month increased from 208 in QE Jun-16 to 275 in QE Sep-16, however postpaid MOUs per subscriber per month declined from 379 in QE Jun-16 to 232 in QE Sep-16.

Table 2.12 : MOU per subscriber per month – CDMA Full Mobility Service

MOU per subscriber per month									
Circle category	Postpaid			Prepaid			Blended		
	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU
Circle A	81	46	127	102	103	204	98	94	193
Circle B	230	120	350	184	153	337	187	151	337
Circle C	220	122	342	144	168	313	155	162	317
Metro	153	99	252	135	121	256	139	116	255
All India	146	87	232	145	130	275	145	124	269

Note: MOU indicate total usage i.e. usage from and outside HSA

Table 2.13 : Outgoing SMS per subscriber per month in QE Sep-16 – CDMA Full Mobility Service

Category	Outgoing SMS per subscriber month		
	Postpaid	Prepaid	Blended
Category A	2	4	3
Category B	3	4	3
Category C	8	4	4
Metro	2	3	3
All India	2	3	3

Note: Outgoing SMS indicates total usage i.e. usage from and outside HSA.

Chart 2.9: Minutes of usage by out-roamers as a percentage of total minutes of usage in QE Sep-16

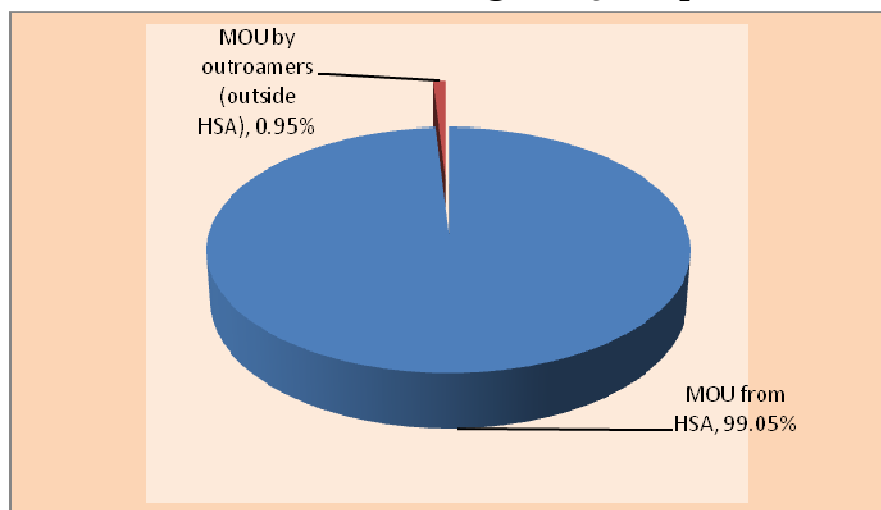


Table 2.14: %Break-up of Outgoing minutes from Home Service Area (HSA) - CDMA Full Mobility Service in QE Sep-16

Circle	Intra Circle To Wireline (%)	Intra Circle to Own Wireless (%)	Intra Circle to Other Wireless (%)	Inter Circle to Wireline (%)	Inter Circle to Own Wireless(%)	Inter Circle to Other Wireless (%)	ILD (%)
Circle A	1.2	44.2	49.7	0.9	0.4	3.6	0.0
Circle B	0.4	39.5	53.3	0.4	0.7	5.7	0.1
Circle C	0.4	39.3	47.2	0.7	1.7	10.7	0.0
Metro	1.2	27.7	42.1	0.6	3.8	24.5	0.1
All India	0.8	37.0	49.1	0.6	1.6	11.0	0.06

2.28 The chart given below presents the percentage of subscribers who availed roaming services (out-roamers) during the quarter.

Chart 2.10: Percentage of subscribers who availed roaming service during the quarter in QE Sep-16

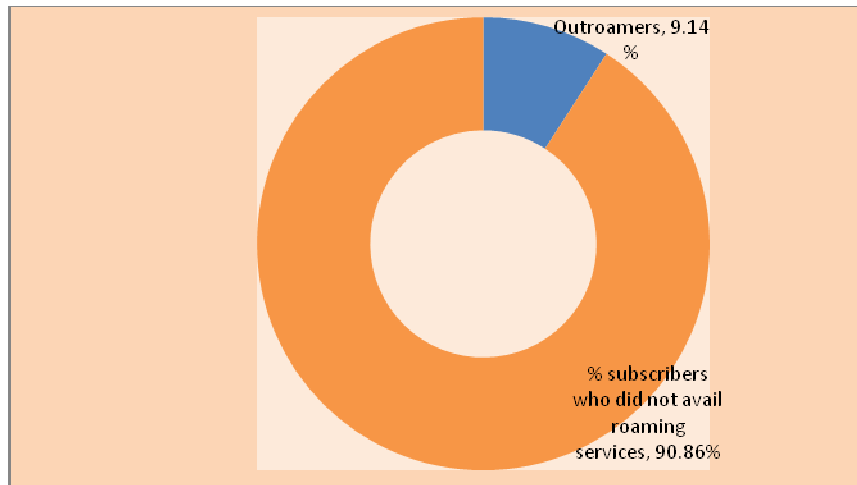


Chart 2.11: Percentage breakup of minutes of usage of Out-roamers (usage from outside the Home Service Area) in QE Sep-16

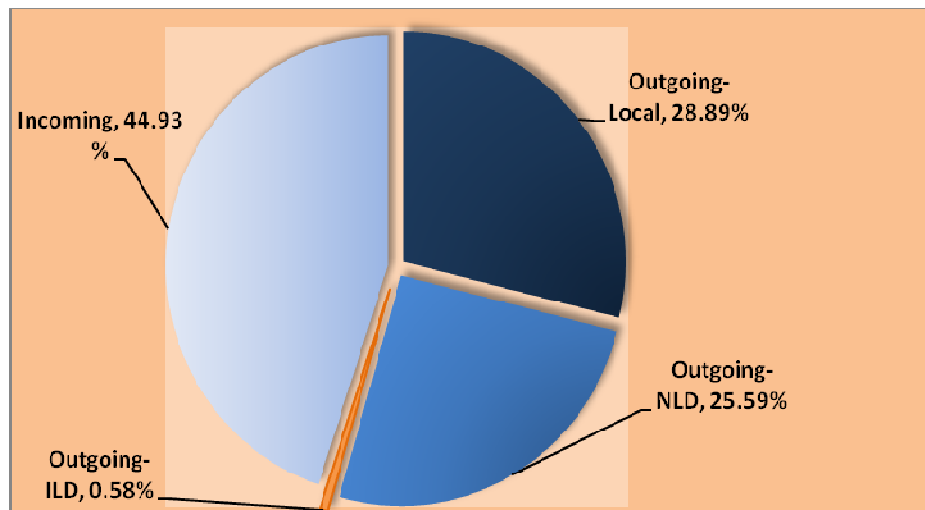


Table 2.15: Average subscriber outgo per outgoing minute from HSA* for CDMA Full Mobility Service in QE Sep-16
[₹ Per min]

Circle Category	Postpaid	Prepaid	Blended
Circle A	1.29	0.37	0.48
Circle B	0.56	0.24	0.26
Circle C	1.02	0.35	0.48
Metros	1.12	0.39	0.56
All India	0.99	0.31	0.40

*Average Subscriber Outgo per Outgoing Minute for usage from HSA =

$$\frac{\text{Rental revenue} + \text{revenue from outgoing calls from HSA}}{\text{No. of outgoing minutes from HSA}}$$

Table 2.16: Trends of Key Parameters - CDMA Full Mobility Service

Parameter	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16
1. ARPU (₹ Per month)	106	103	104	99	154
2. Average revenue from data usage per subscriber per month (in ₹)	52	51	51	49	91
3. MOU per subscriber per month	256	252	260	228	269
4. Outgoing MOU per subscriber per month	144	144	150	130	145
5. No. of Outgoing SMS per subscriber per month	8.67	8.52	7.61	6.85	3.21
6. Average subscriber Outgo per outgoing minute from HSA (₹)	0.39	0.38	0.38	0.39	0.40

2.29 Service Area wise statistics are available at Annexure-2.2.

Chapter 3 :

Financial Data of

Telecom Service

Sector

Table 3.1: Gross Revenue (GR), Adjusted Gross Revenue (AGR), License Fee (LF) & Spectrum Charges

Particulars	QE Sep-15 (₹ in Crore)	QE Jun-16 (₹ in Crore)	QE Sep-16 (₹ in Crore)	Q-O-Q % Change Over Jun-16	Y-O-Y % Change over Sep-15
Gross Revenue (GR)	64,996	73,344	71,379	-2.68	9.82
Adjusted Gross Revenue (AGR)	46,257	53,383	50,539	-5.33	9.26
Pass Through Charges (GR-AGR)	18,740	19,961	20,839	4.40	11.21
License Fee	3,701	4,314	4,091	-5.18	10.54
Spectrum Usage Charges	1,876	2,148	1,868	-13.05	-0.40

3.1 Gross Revenue (GR) quarterly declined by 2.68% in QE Sep-16, however, on annual basis, it has increased by 9.82%. Adjusted Gross Revenue (AGR) quarterly declined by 5.33% in the QE Sep-16.

3.2 Pass through charges increased by 4.40% in the QE Sep-16 and on annual basis it increased by 11.21%.

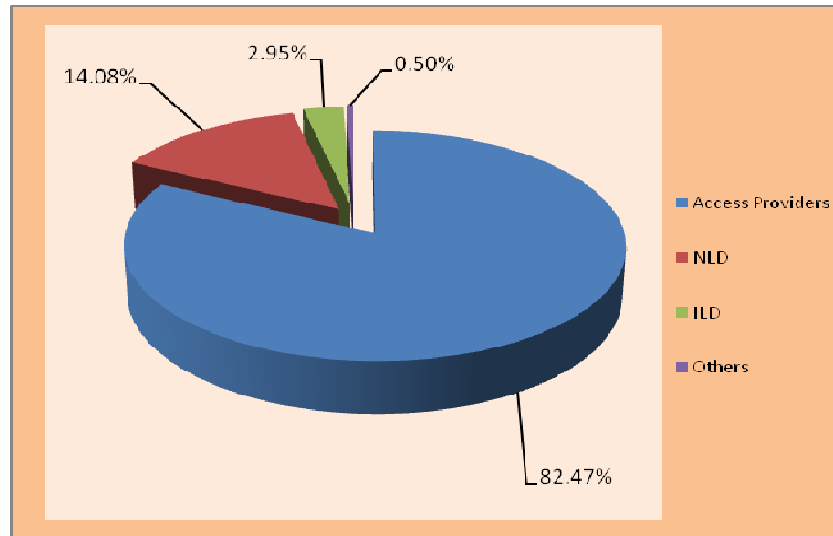
3.3 Pass-through charges as a percentage of Gross Revenue are 29.20% in QE Sep-16 as against 27.22% in the previous quarter.

Table 3.2: Service-wise Gross Revenue, Adjusted Gross Revenue, License Fee and Spectrum Charges

(in ₹ Crore)

Service	GR	AGR	LF	Spectrum Usage Charges
Access Providers	53,754	41,681	3,379	1,864
NLD	9,036	7,117	570	-
ILD	4,442	1,491	119	-
Others	4,147	251	22	4
Total	71,379	50,539	4,091	1,868

Chart 3.1: Composition of Adjusted Gross Revenue



3.4 Access services contributed 82.47% of the total Adjusted Gross Revenue of telecom services. In Access services, Gross Revenue (GR), Adjusted Gross Revenue(AGR), License Fee and Spectrum Usage Charges(SUC) declined by 2.68%, 5.33%, 5.18% and 13.05% respectively whereas, Pass Through Charges increased by 4.40% in QE Sep-16.

3.5 Monthly Average Revenue per User (ARPU) for Access Services based on AGR declined from ₹140.88 in QE Jun-16 to ₹131.10 in QE Sep-16.

Chart 3.2: Trend in ARPU per month for Access Services

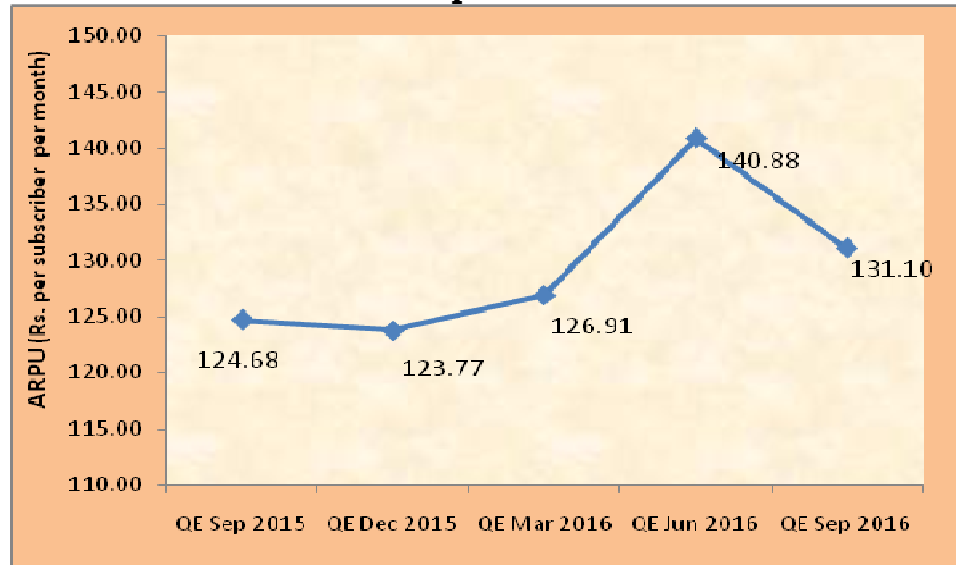


Table 3.3: Access Services - Service Provider wise Adjusted Gross Revenue

(in ₹ Crore)

Service	QE Sep-16	QE Jun-16	% Change
Bharti	12493.18	12858.26	-2.84
Vodafone	8754.78	9004.50	-2.77
Idea	7317.81	7667.60	-4.56
Aircel*	4328.30	1985.82	117.96
BSNL	3283.57	3131.89	4.84
Tata	2531.34	2620.49	-3.40
Reliance Com.	1131.04	1274.22	-11.24
Telenor	716.91	860.11	-16.65
MTNL	584.47	555.06	5.30
Sistema Shyam	274.27	302.74	-9.41
Videocon^	218.55	4434.31	-95.07
Quadrant	23.70	50.86	-53.40
Reliance Jio	23.41	8.25	183.81
Grand Total (Access)	41681.33	44754.11	-6.87

*Revenue from surrender of spectrum by M/s Aircel has been shown.

^Revenue of Videocon of Q.E. June, 2016 was very high due to receipt from surrender of Spectrum.

3.6 Public Sector Undertakings' share in the Access AGR of telecom services is 9.28% in the QE Sep-16.

Table 3.4: Category-wise share in Adjusted Gross Revenue (AGR) of Access Services

Category	AGR of Access Services for QE Sep-16 (in ₹ crore)	%age share of AGR
Metro	5914.92	14.19
A	17562.07	42.13
B	13589.20	32.60
C	4615.14	11.07
Total	41681.33	100

Notes :

1. Source: Figures are un-audited and as submitted by the Operators.
2. The figures have been regrouped wherever considered necessary for analysis purpose.
3. The Spectrum usage charges (mostly) are now reported on "Payment for the current Quarter" basis. However, some operators are reporting on payment basis or on estimate basis on projected AGR for next quarter.
4. Metro area includes Delhi, Mumbai and Kolkata only. Chennai is clubbed with Tamilnadu.

Chapter 4 : Quality of Service (QoS)

Section A: Quality of Service Performance of Wireless Service Providers

Part-I : 2G Wireless Services

Table 4.1: QoS Summary - 2G Wireless Service

S. No.	Parameters	Bench- mark	No. of CMTS Licensees not Meeting the Benchmarks			
			Q. E. June, 2016		Q. E. September, 2016	
			Out Of 175 for Network and Out of 180 for Customer (Nos.)	Out Of 175 for Network and Out of 180 for Customer (%)	Out Of 163 for Network and Out of 162 for Customer (Nos.)	Out Of 163 for Network and Out of 162 for Customer (%)
I.	Network Related Parameters					
1	Network Availability					
(i)	BTSs Accumulated downtime (not available for service)	≤ 2%	3	1.71%	2	1.23%
(ii)	Worst affected BTSs due to downtime	≤ 2%	7	4.00%	6	3.68%
2	Connection Establishment (Accessibility)					
(i)	Call Set-up Success Rate (within licensee's own network)	≥ 95%	3	1.71%	2	1.23%
(ii)	SDCCH/ Paging Chl. Congestion	≤ 1%	5	2.86%	1	0.61%
(iii)	TCH Congestion	≤ 2%	6	3.43%	6	3.68%
3	Connection Maintenance (Retain ability)					
(i)	Call Drop Rate	≤ 2%	0	0	0	0
(ii)	Worst affected cells having more than 3% TCH drop (call drop) rate	≤ 3%	19	10.86%	23	14.11%
(iii)	Connection with good voice quality	≥ 95%	3	1.71%	3	1.84%
4	Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter)	≤ 0.5%	2	1.14%	9	5.52%
II.	Customer Service Quality Parameters					
5	Metering and Billing					
(i)	Metering and billing credibility - post paid	≤ 0.1%	6	3.33%	2	1.23%
(ii)	Metering and billing credibility - pre paid	≤ 0.1%	7	3.89%	11	6.79%

S. No.	Parameters	Bench- mark	No. of CMTS Licensees not Meeting the Benchmarks			
			Q. E. June, 2016		Q. E. September, 2016	
			Out Of 175 for Network and Out of 180 for Customer (Nos.)	Out Of 175 for Network and Out of 180 for Customer (%)	Out Of 163 for Network and Out of 162 for Customer (Nos.)	Out Of 163 for Network and Out of 162 for Customer (%)
(iii)	Resolution of billing/charging/ validity complaints	98% within 4 weeks	0	0	1	0.62%
	Resolution of billing/charging/ validity complaints	100% within 6 weeks	0	0	1	0.62%
(iv)	Period of applying credit/ waiver/ adjustment to customer's account from the date of resolution of complaints	within 1 week of resolution of complaint	3	1.67%	0	0
6	Response time to the customer for assistance					
(i)	Accessibility of call centre/ customer care	≥ 95%	5	2.78%	7	4.32%
(ii)	%age of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	59	32.78%	31	19.14%
7	Termination / closure of service					
(i)	%age requests for Termination / Closure of service complied within 7 days	100% within 7 days	4	2.22%	3	1.85%
(ii)	Time taken for refund of deposits after closures	100% within 60 days	46	25.56%	21	12.96%

Note : M/s RCOM CDMA has submitted PMR for only 6 circles in the month of July, 2016 and stopped submitting PMR from August, 2016 onwards due to closure of its CDMA services. Hence number of CMTS Licensees has decreased from 175 to 163 in network related parameters and from 180 to 162 in Customer related parameters.

4.1 The performance has improved in this quarter as compared to the previous quarter in respect of the following parameters:-

- a. BTSs Accumulated downtime (not available for service)
- b. Worst affected BTSs due to downtime
- c. Call Set-up Success Rate (within licensee's own network)
- d. SDCCH/ Paging Channel Congestion
- e. Metering and billing credibility - post paid
- f. Period of applying credit/ waiver/ adjustment to customer's account from the date of resolution of complaints
- g. %age of calls answered by the operators (voice to voice) within 90 sec
- h. %age requests for Termination / Closure of service complied within 7 days
- i. Time taken for refund of deposits after closures

4.2 The performance has deteriorated in this quarter as compared to the previous quarter in respect of the following parameters:-

- a. Worst affected cells having more than 3% TCH drop (call drop) rate
- b. Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark)
- c. Metering and billing credibility - pre paid
- d. Resolution of billing/charging/validity complaints (98% within 4 weeks)
- e. Resolution of billing/charging/validity complaints (100% within 6 weeks)
- f. Accessibility of call centre/ customer care

Table 4.2: Parameter wise Analysis of Non-compliance of QoS Benchmarks for 2G Wireless Service Providers

Parameter	Benchmark	Service Provider	Service Area	Performance
BTSs Accumulated downtime (not available for service) (%age)	≤ 2%	Aircel	Assam	2.84
			North East	5.52
Worst affected BTSs due to downtime (%age)	≤ 2%	Aircel	Assam	18.76
			Bihar	9.99
			Jammu & Kashmir	3.09
			North East	35.65
		BSNL	Kolkata	2.71
		Vodafone	Jammu & Kashmir	9.38
Call Set-up Success Rate (within licensee's own network)	≥ 95%	Aircel	Assam	91.54
			Bihar	88.74
SDCCH/ Paging Chl. Congestion (%age)	≤ 1%	Airtel	Jammu & Kashmir	9.52
TCH Congestion (%age)	≤ 2%	Aircel	Assam	5.81
			Bihar	11.47
			Jammu & Kashmir	3.00
			North East	2.98
		Airtel	Jammu & Kashmir	2.50
		RCOM CDMA	Rajasthan	2.28
Worst affected cells having more than 3% TCH drop (call drop) rate (%age)	≤ 3%	Aircel	Assam	19.05
			Bihar	15.08
			Delhi	5.13
			Himachal Pradesh	11.47
			Jammu & Kashmir	12.28
			Kerala	4.71
			Mumbai	5.56
			North East	17.63
			Orissa	10.08
			Rajasthan	4.22
			Tamil Nadu	5.17
			West Bengal	10.65
		BSNL	West Bengal	14.76
		Telenor	Bihar	6.05
			Gujarat	3.75
			Maharashtra	3.67
			UP E	8.71
			UP W	4.62
		TTSL CDMA	Kolkata	3.79
		Vodafone	Andhra Pradesh	3.07
Madhya Pradesh	5.59			
Mumbai	3.73			
UP E	4.18			
Connection with good voice quality	≥ 95%	Aircel	Assam	90.98
			North East	92.80
		Telenor	UP E	94.96

Parameter	Benchmark	Service Provider	Service Area	Performance
Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter)	≤ 0.5%	Aircel	Tamil Nadu	1
		Idea	Kerala	1
			Maharashtra	1
			Mumbai	1
			UP E	1
		Telenor	Andhra Pradesh	2
			Bihar	1
TTSL CDMA	Kolkata	1		
Vodafone	Jammu & Kashmir	1		
Metering and billing credibility - post paid	≤ 0.1%	Idea	UP W	0.11
		Vodafone	Mumbai	0.41
Metering and billing credibility - pre paid	≤ 0.1%	Airtel	Delhi	0.11
			Himachal Pradesh	0.12
			Kerala	0.13
			Punjab	0.11
		Idea	Andhra Pradesh	0.26
			North East	0.12
			Rajasthan	0.18
		Vodafone	Andhra Pradesh	0.13
			Karnataka	0.29
			Madhya Pradesh	0.14
Mumbai	0.24			
Resolution of billing/charging complaints	98% within 4 weeks	TTSL CDMA	Bihar	66.67
	100% within 6 weeks	TTSL CDMA	Bihar	66.67
Accessibility of call centre/ customer care	≥ 95%	Aircel	Bihar	93.59
			Delhi	91.09
			Jammu & Kashmir	91.79
		AIRTEL	Assam	90.00
			Kolkata	82.68
			North East	92.35
			West Bengal	92.70
Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	Aircel	Jammu & Kashmir	77.74
		AIRTEL	Andhra Pradesh	91.46
			Assam	89.86
			Delhi	88.69
			Gujarat	93.90
			Haryana	93.57
			Jammu & Kashmir	84.47
			Karnataka	86.52
			Kerala	93.89
			Kolkata	89.80
		Mumbai	90.65	
		AIRTEL	North East	93.23
			TamilNadu+Chennai	91.50
			West Bengal	93.78
		RCOM GSM	Andhra Pradesh	89.51

Parameter	Benchmark	Service Provider	Service Area	Performance
Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%		Delhi	86.47
			Gujarat	83.74
			Jammu & Kashmir	75.96
			Karnataka	82.75
			Kerala	93.19
			Maharashtra	89.13
			Mumbai	81.87
		TamilNadu+Chennai	89.58	
		RTL	Kolkata	93.42
			Madhya Pradesh	92.83
			West Bengal	93.08
		TTML GSM	Maharashtra	94.69
		TTSL GSM	Gujarat	94.18
		Vodafone	Jammu & Kashmir	93.39
Karnataka	90.83			
Mumbai	94.01			
%age requests for Termination / Closure of service complied within 7 days	100% within 7 days	Aircel	Karnataka	99.77
			Kolkata	99.48
		IDEA	Kolkata	99.96
Time taken for refund of deposits after closures	100% within 60 days	IDEA	Haryana	99.91
		RCOM GSM	Andhra Pradesh	99.97
			Delhi	82.69
			Gujarat	94.27
			Haryana	99.92
			Karnataka	86.46
			Kerala	91.36
			Maharashtra	99.68
			Mumbai	78.96
			Rajasthan	94.96
			TamilNadu+Chennai	88.76
			UP E	85.65
			UP W	91.95
		RTL	Assam	89.42
			Bihar	95.18
			Kolkata	89.33
			Madhya Pradesh	95.83
			North East	69.05
			Orissa	90.19
		West Bengal	90.84	
Vodafone	Mumbai	98.83		

4.3 The detailed table on Service Provider wise performance of QoS parameters for Wireless 2G Services is available at Annexure-4.1.

Part-II : 3G Wireless Services

4.4 The summary of performance of 3G service providers who have not met the benchmarks in this quarter is given in below table.

Table 4.3: QoS Summary - 3G Wireless Service

S. No.	Parameters		Bench mark	No. of CMTS Licensees not Meeting the Benchmarks			
				Q. E. June, 2016		Q. E. September, 2016	
				Out of 106 (Nos.)	Out of 106 (in %)	Out Of 107 (Nos.)	Out of 107 (in %)
1	Network Availability	BTSs and Node-B's Accumulated downtime (not available for service) (%age)	≤ 2%	2	1.89%	2	1.87%
		Worst affected BTSs and Node-B's due to downtime (%age)	≤ 2%	7	6.60%	6	5.61%
2	Connection Establishment (Accessibility)	Call Set-up Success Rate (within licensee's own network)	≥ 95%	0	0.00%	0	0.00%
		SDCCH/Paging Channel and RRC Congestion (%age)	≤ 1%	1	0.94%	0	0.00%
		TCH and Circuit Switched RAB Congestion (%age)	≤ 2%	0	0.00%	0	0.00%
3	Connection Maintenance (Retainability)	Call Drop and Circuit Switched Voice Drop Rate: (%age)	≤ 2%	0	0.00%	0	0.00%
		Worst affected cells having more than 3% TCH drop (call drop) and Circuit Switched Voice Drop Rate:-CBBH	≤ 3%	14	13.21 %	12	11.21 %
		Connections with good voice quality and Circuit Switch Voice Quality (CSV quality)	≥ 95%	1	0.94%	0	0.00%
4	Point of Interconnection	Point of Interconnection (POI) Congestion	≤ 0.5%	1	0.94%	1	0.93%

4.5 The performance has improved in this quarter as compared to the previous quarter in respect of the following parameters :-

- a. Worst affected BTSs and Node-B's due to downtime (%age)
- b. SDCCH/Paging Channel and RRC Congestion (%age)
- c. Worst affected cells having more than 3% TCH drop (call drop) and Circuit Switched Voice Drop Rate:-CBBH
- d. Connection with good voice quality and Circuit Switch Voice Quality (CSV Quality)

Table 4.4: Parameter wise Analysis of Non-compliance of QoS Benchmarks for 3G Wireless Service Providers

Parameter	Benchmark	Service Provider	Service Area	Performance
BTSs and Node-B's Accumulated downtime (not available for service) (%age) downtime (not available for service) (%age)	≤ 2%	Aircel	Assam	3.14
			North East	6.47
Worst affected Node B's due to downtime (%age)	≤ 2%	Aircel	Assam	22.29
			Bihar	7.67
			J & K	2.93
			North East	42.72
		West Bengal	2.97	
		BSNL	Kolkata	4.00
Worst affected cells having more than 3% Circuit Switched Voice Drop Rate	≤ 3%	Aircel	Assam	7.36
			Bihar	7.97
			J & K	10.78
			Karnataka	4.13
			North East	16.32
			Orissa	11.12
			Punjab	3.81
			Tamil Nadu	5.33
			UP-East	3.26
		West Bengal	3.80	
		Airtel	J & K	3.26
		BSNL	West Bengal	7.42
Point of Interconnection (POI) Congestion	≤ 0.5%	Aircel	Tamil Nadu	1

4.6 The details table on Service Area wise performance of QoS parameters for 3G Wireless Services is available at Annexure-4.2.

Section B: Quality of Service Performance of Wireline Service Providers

Table 4.5: QoS Summary - Wireline Service

S. No.	Parameters	Benchmark	No of license areas where operators not meeting the benchmarks			
			Q.E. June, 2016		Q.E. Sept., 2016	
			Out of 103 (in Nos.)	Out of 103 (in %age)	Out of 102 (in Nos.)	Out of 102 (in %age)
(i)	Fault incidences per 100 subs/ month	≤ 7	0	0%	2	2%
(ii)	% Fault repaired by next working day for urban areas	≥ 85%	0	0%	2	2%
	% Fault repaired within 5 days (for urban areas)	≥100%	2	2%	2	2%
(iii)	% Fault repaired by next working day for rural and hilly areas	≥ 75%	0	0%	0	0%
	% Fault repaired within 7 days (for rural and hilly areas)	≥100%	0	0%	0	0%
(iv)	MTTR	≤10Hs	0	0%	5	5%
(v)	Point of Interconnection (POI) Congestion (No. of PolS not meeting benchmark)	≤ 0.5%	0	0%	0	0%
(vi)	Metering and Billing credibility - post-paid	≤ 0.1%	0	0%	0	0%
	Metering and Billing credibility - pre-paid	≤ 0.1%	0	0%	0	0%
(vii)	Period of applying credit/ waiver/ adjustment to customer's	1 week of resolution of complaint	0	0%	0	0%
(viii)	Resolution of billing/charging/ Credit & validity complaints	98% within 4 weeks	1	1%	0	0%
	Resolution of billing/charging/ Credit & validity complaints	100% within 6 weeks	0	0%	0	0%
(ix)	Accessibility of call centre/ customer care	≥ 95%	0	0%	4	4%
	%age of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	26	25%	19	18%
(x)	Termination / closure of service	100% within 7 days	2	2%	0	0%
(xi)	Time taken for refund of deposits after closures	100% within 60 days	0	0%	0	0%

NOTE: Most of the SPs have not reported for the parameter “Metering and billing credibility - pre paid” because most of the service providers are not providing pre-paid service in Basic (Wire line) service.

4.7 The performance has improved in this quarter as compared to the previous quarter in respect of the following parameters:-

- a. Resolution of billing/charging /credit & validity complaints (98% within 4 weeks)
- b. %age of calls answered by the operators (voice to voice) within 90 seconds
- c. Termination / closure of service 100% within 7 days

4.8 The performance has deteriorated in this quarter as compared to the previous quarter in respect of the following parameters:-

- a. Fault incidences (No. Of faults/ 100 subs/month)
- b. Fault repaired by next working day for urban areas
- c. Mean Time Fault repaired within 5 days (for urban areas)
- d. Response time to the customer for Assistance- Accessibility of call centre/Customer care.

Table 4.6: Parameter wise Analysis of Non-compliance of QoS Benchmarks for Wireline Service Providers

Parameters	Bench- marks	Service Provider	Service areas	Parameters not met
Fault incidence (No. of faults/100 subs/months)	≤ 7	MTNL	DEL	7.19
		TATA	AP	7.12
% Fault repaired within next working days (for urban areas)	≥85%	MTNL	DEL	77.64%
		BSNL	J&K	64.00%
% Fault repaired within 5 days (for urban areas)	≥100%	MTNL	DEL	97.88%
			MUM	99.49%
Mean Time to Repair(MTTR)	≤ 10 Hrs	Tata	BH	12.21
			DL	11.76
			GJ	10.39
			MUM	20.60
			MH	12.70
Response time to the customer for assistance - Accessibility of call centre/customer care	≥95%	BSNL	AP	92.58%
			KTK	93.22%
			KR	92.23%
			TN	93.03%

Parameters	Bench- marks	Service Provider	Service areas	Parameters not met
Response time to the customer for assistance - Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥95%	Bharti Airtel Ltd.	AP	60%
			KTK	83%
			KR	94%
			TN	67%
			DL	64%
			HR	94%
			KOL	93%
			PB	93%
			GJ	76%
			MP	57%
			MH	74%
			MUM	69%
		RAJ	94%	
		BSNL	AP	92.31%
			KTK	93.03%
			KR	92.26%
			TN	93.11%
TATA	CH	93.98%		
	DL	94.68%		

4.9 Detailed table containing QoS parameters for all the Wireline Service Providers is given in Annexure-4.3.

Section C : Quality of Service Performance of Broadband (wireline) Service

4.10 There are 124 Service Providers (SPs) providing broadband (wireline) service at the end of September, 2016. Out of these SPs, 39 Service Providers are having broadband subscriber base >10,000 and market share of these 39 SPs is 99.17% of total subscriber base. This report covers performance of top 37 broadband Service Providers vis-à-vis the QoS benchmarks prescribed by TRAI, for the QE September, 2016.

**Table 4.7 : Summary of Performance of Broadband Service Providers
against identified parameters**

S. No.	Parameter	Benchmark	Number of Licensees not meeting the Benchmarks			
			Q. E. June, 2016		Q. E. September, 2016	
			Out of 64 (in Nos.)	Out of 64 (in %)	Out of 62 (in No.)	Out of 62 (in %)
1	Service Provisioning	100% in =<15 working days				
1.2	%age of connections provided within 15 days of registration of demand	100%	5	7.81%	6	9.68%
2	Faults Repair					
2.2	% of faults repaired by next working day (>90%)	>90%	3	4.69%	3	4.84%
2.3	% of faults repaired within 3 working day	=>99%	3	4.69%	4	6.45%
3	Billing Performance					
3.3	%age of bills disputed	<2%	0	0.00%	0	0.00%
3.4	%age of billing complaints resolved within 4 weeks	100% within 4 weeks	3	4.69%	0	0.00%
3.5	%age of cases to whom refund of deposits is made within 60 days of closures	100% within 60 days	0	0.00%	0	0.00%
4	Response Time to the Customer for assistance					
4.2	%age of calls answered by operator (Voice to voice) within 60 sec	>60%	8	13.11%	6	9.68%

S. No.	Parameter	Benchmark	Number of Licensees not meeting the Benchmarks			
			Q. E. June, 2016		Q. E. September, 2016	
			Out of 64 (in Nos.)	Out of 64 (in %)	Out of 62 (in No.)	Out of 62 (in %)
4.3	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	9	14.06%	8	12.90%
5	Bandwidth utilisation/ throughput					
5.2	No. of Intra network links having Bandwidth utilisation >90% during peak hours (TCBH)	0	0	0.00%	1	1.61%
5.4	No. of Upstream links for International connectivity having bandwidth utilisation >90% during peak hours (TCBH)	0	0	0.00%	0	0.00%
5.7	% International bandwidth utilization during peak hours (TCBH) (Enclose MRTG) <90%	<90%	0	0.00%	1	1.61%
5.8	Broadband Connection Speed available (download) from ISP node to user	>80%	0	0.00%	0	0.00%
6	Service availability /uptime (for all users) in %age					
6.3	Service availability /uptime (for all users) in %age	>98%	0	0.00%	0	0.00%
7	Packet loss (for wired broadband access) in %age	<1%	0	0.00%	0	0.00%
8	Network latency (for wired broadband access)					
8.1	User reference point at POP/ISP Gateway node to IGSP/NIXI	<120 ms	0	0.00%	0	0.00%
8.2	User reference point at ISP Gateway node to International nearest NAP port abroad (terrestrial)	<350 ms	0	0.00%	0	0.00%
8.3	User reference point at ISP Gateway node to International nearest NAP port abroad (satellite)	<800 ms	0	0.00%	0	0.00%

Table 4.8: Parameter-wise Analysis of non-compliance of QoS benchmarks for Broadband Service Providers

Sl. No.	Parameters	Benchmark	Name of the Service Provider not meeting the Benchmark
1	Service Provisioning/ Activation Time	100% in =< 15 working days	
1.2	%age of connections provided within 15 days of registration of demand	100%	Atria Convergence - All India (95.50%), Nextra Teleservices - Delhi (99.70%), Tata (TTML) - Maharashtra & Goa (99.95%), Tata (TTSL) - All India (99.97%), Yashash Cable - Karnataka (89.55%), You Broadband - All India (99.73%)
2	Faults Repair/Restoration Time		
2.2	% of faults repaired by next working day	>90%	MTNL - Delhi & Mumbai (81.62%), Atria Convergence - All India (80.15%)
2.3	% of faults repaired within 3 working day	=>99%	MTNL - Delhi & Mumbai (93.48%), Atria Convergence - All India (98.18%), Tata (TTML) - Maharashtra & Goa (98%)
4	Response Time to the Customer for assistance		
4.2	%age of calls answered by operator (Voice to voice) within 60 sec	>60%	Bharti Airtel - Andhra Pradesh (50%), Delhi (47%), Gujarat (48%), Madhya Pradesh (43%), Mumbai (53%), Tamilnadu (59%)
4.3	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	Bharti Airtel - Andhra Pradesh (56%), Delhi (54%), Gujarat (55%), Karnataka (74%), Madhya Pradesh (52%) Maharashtra (67%), Mumbai (60%), Tamilnadu (66%)
5	Bandwidth utilisation/ throughput		
5.2	No. of Intra network links having Bandwidth utilisation >90% during peak hours (TCBH)	0	Railtel Corporation - All India (17)
5.7	% International bandwidth utilization during peak hours (TCBH) (Enclose MRTG) <90%	<90%	Syscon - Maharashtra (90.01%)

4.11 Detailed table containing QoS parameters for all the Broadband Service Providers is given in Annexure-4.4.

Chapter 5 :

Performance of Cable TV, DTH and Radio Broadcasting Services

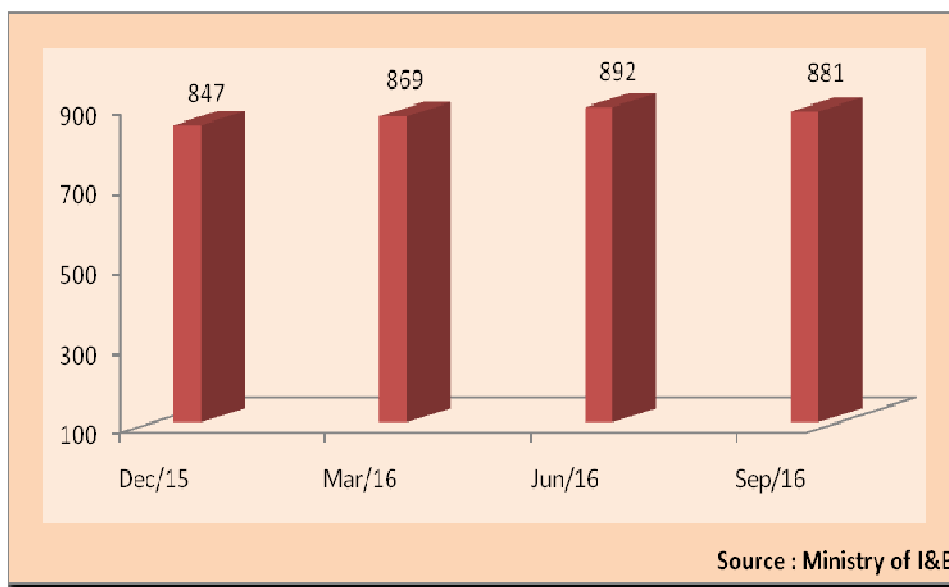
Table 5.1: Key Parameters - Broadcasting & Cable Services

S.No	Parameter	QE Jun-16	QE Sep-16
1	Number of Private satellite TV channels permitted by the Ministry of I&B for uplinking only/ downlinking / uplinking	892	881
2	Number of Pay TV Channels	275	281
3	Private FM Radio stations in operation	245	260
4	Private DTH Operators	6	6
5	Number of Registered DTH Subscribers	91.53 Million	94.61 Million
6	Number of Registered DTH Subscribers	60.50 Million	61.90 Million
7	Licensees of community radio stations	243	250
8	Operational community radio stations	196	200

A. Satellite TV Channels

5.1 A total of 881 private satellite TV channels have been permitted by the Ministry of Information and Broadcasting (MIB) for uplinking only/ downlinking / uplinking, as on 30th September, 2016.

Chart 5.1 : Quarterly growth in number of Satellite TV channels (FTA & Pay) registered with Ministry of I&B



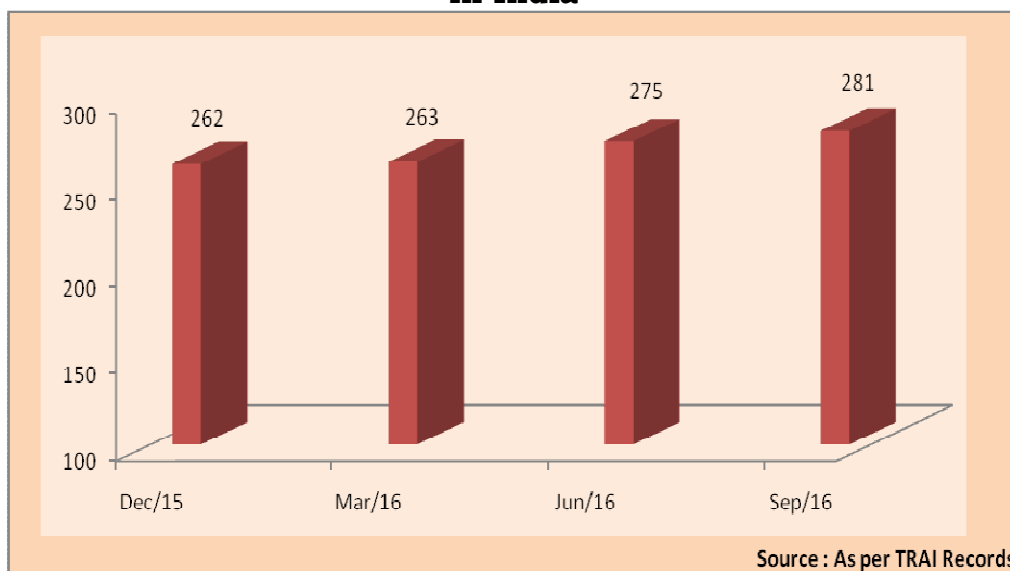
B. Pay TV Channels

5.2 During the quarter ending September 2016, there were 281 pay channels as reported by broadcasters as compared to 275 pay channels reported in the previous quarter. The list of 281 Pay TV Channels is placed at Annexure-5.1. During the quarter ending September, 2016, as per the reporting, twelve new pay channels were commenced, five pay channels were converted from Pay to FTA & one channel was reported to be discontinued. The details are as under :-

New Channels (Twelve channels)	Converted from Pay to FTA (Five channels)	Discontinued (One channel)
(1) SAB HD	(1) 9XO	(1) Zee Smile
(2) Le Plex HD	(2) IBN 7	
(3) Star Sports Select HD 1	(3) News 18 Kerala	
(4) Star Sports Select HD 2	(4) News 18 Tamil Nadu	
(5) MAA HD	(5) News 18 Assam / North East	
(6) FY1TV18		
(7) Zee Cinemalu		
(8) Zee Yuva		
(9) WION		
(10) Vijay Super		
(11) Times Now HD		
(12) Colors Super		

5.3 Further, during the quarter, information about change of feed of “Jaya TV” channel from SD to HD has been received. In addition, the broadcaster of ‘Movies Now’ channel has stopped the HD feed of its channel. Also, during the quarter, intimation of Merger of Prism TV Private Limited with Viacom 18 Media Private Limited w.e.f. 01.09.2016 has been received.

Chart 5.2 : Quarterly growth in number of satellite Pay TV channels in India



C. Cable TV Sector

5.4 Digitization, with addressability, of cable TV sector is under progress, in a phased manner. It is envisaged to be executed in four phases. The time line of the plan was subsequently revised and the revised time-table and schedule is as below: -

Table 5.2 : Migration Schedule - Digital Addressable Cable TV Systems

Phase	Areas	Sunset date for analog Cable TV
Phase -I	Four Metros of Delhi, Mumbai, Kolkata, Chennai	31.10.2012
Phase -II	Cities with population more than one million (38 cities)	31.03.2013
Phase -III	All Urban areas (Municipal Corporation/ Municipalities)	31.12.2015
Phase -IV	Rest of India	31.12.2016

5.5 As reported by MSOs providing Cable TV services through Digital Addressable System (DAS), details about number of reported channels being carried by the MSOs in areas served by Digital addressable system are as under:-

Areas served by Digital Addressable Systems (DAS)

Particulars	MSO	Number
Maximum number of TV channels (FTA+Pay+Local) carried	M/s Fastway Transmission Pvt Limited and Hathway Cable & Datacom Pvt Ltd	423
Minimum of TV channels (FTA+Pay+Local) carried	M/s Ortal Communications Limited	205
Maximum number of FTA channels carried	M/s Den Satellite Network Pvt Limited	183
Maximum number of Pay channels carried	M/s GTPL Kolkata Cable & Broadband Pariseva Limited	235
Maximum number of Local channels carried	M/s Hathway Sukhamrit Cable & Datacom Pvt Limited	89

D. Direct-to-Home (DTH) Sector

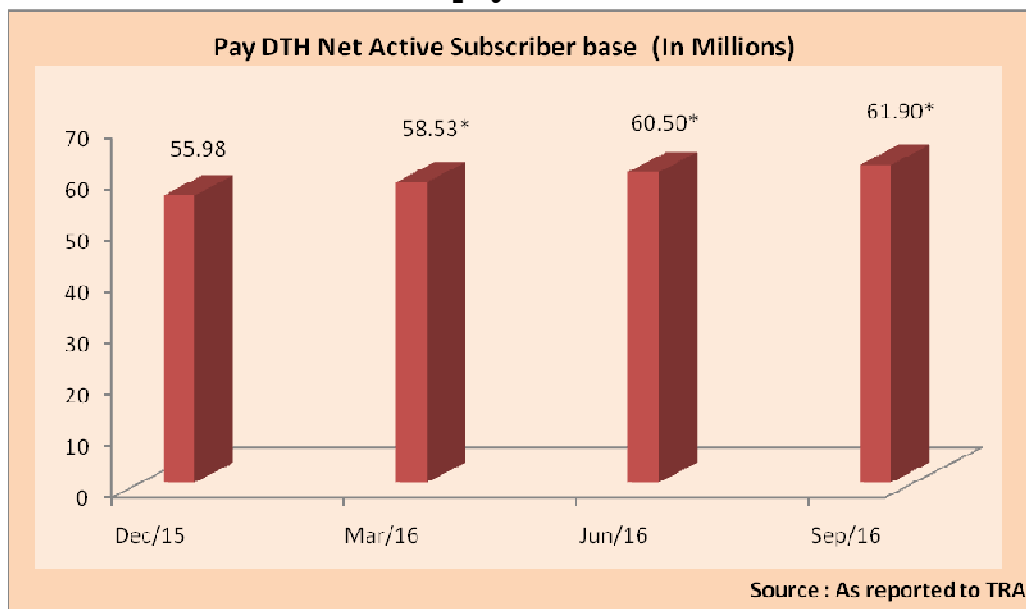
5.6 As reported by Pay Direct to Home (DTH) operator, details about number of reported channels being carried by the DTH operators on their platforms are as under:-

Particulars	DTH Operator	Number
Maximum number of TV channels (FTA+Pay) carried	M/s Tata Sky Ltd	495
Minimum of TV channels (FTA+Pay) carried	M/s Sun Direct Pvt Ltd	226
Maximum number of FTA channels carried	M/s DISH TV India Ltd	232
Maximum number of Pay channels carried	M/s Tata Sky Ltd	287

5.7 Since its introduction in the year 2003, Indian DTH service has displayed a phenomenal growth. DTH has attained a registered pay subscriber base of around **94.61** million (including **61.90** million active subscribers). As on 30th September, 2016, there are 6 pay DTH service providers. This is besides the viewership of the free DTH services of Doordarshan. The list of private DTH service providers is placed at Annexure 5.2.

5.8 Quarterly growth in the DTH sector in terms of the registered and net active subscriber base is depicted in the chart below.

Chart 5.3 : Quarterly growth in Net Active subscribers (in million) of pay DTH



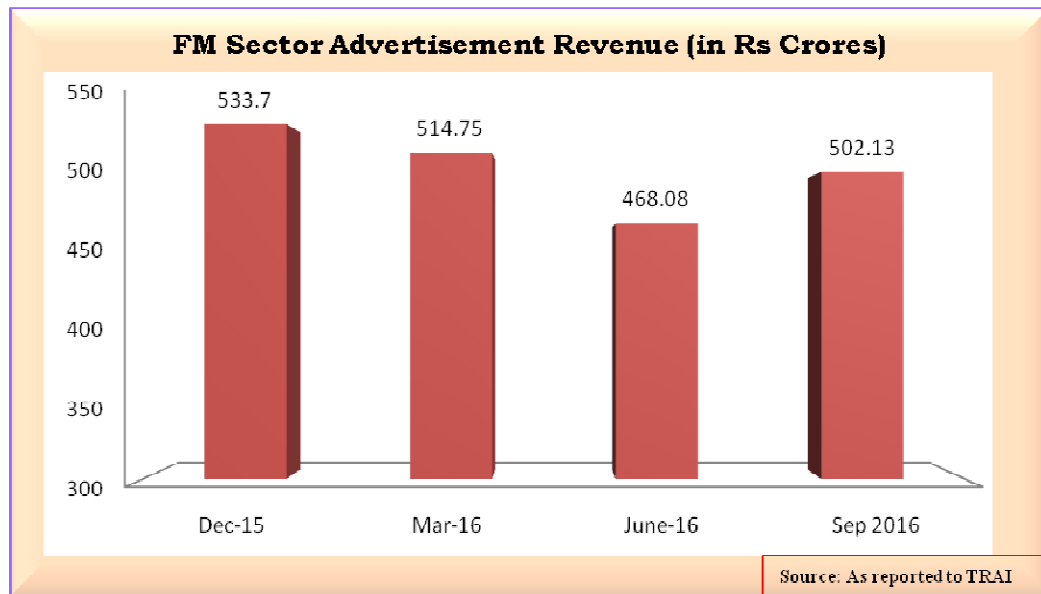
* The net active subscriber base includes number of temporarily suspended subscribers who have been inactive but for not more than 120 days.

E. FM Radio Services

5.9 Apart from the radio Stations operated by All India Radio, Prasar Bharati – a public broadcaster, there are 260 operational private FM radio stations and 84 existing cities with operational FM radio channels as on 30th September, 2016. A list of 84 existing cities with operational FM radio channels is placed at Annexure 5.3.

5.10 The reported advertisement revenue during the quarter ending September, 2016 in respect of 259 private FM Radio stations was ₹502.13 crores as against ₹468.08 crores in respect of 244 private FM Radio stations in the previous quarter. The information is based on the details of Advertisement Revenue submitted by the FM radio service providers to TRAI.

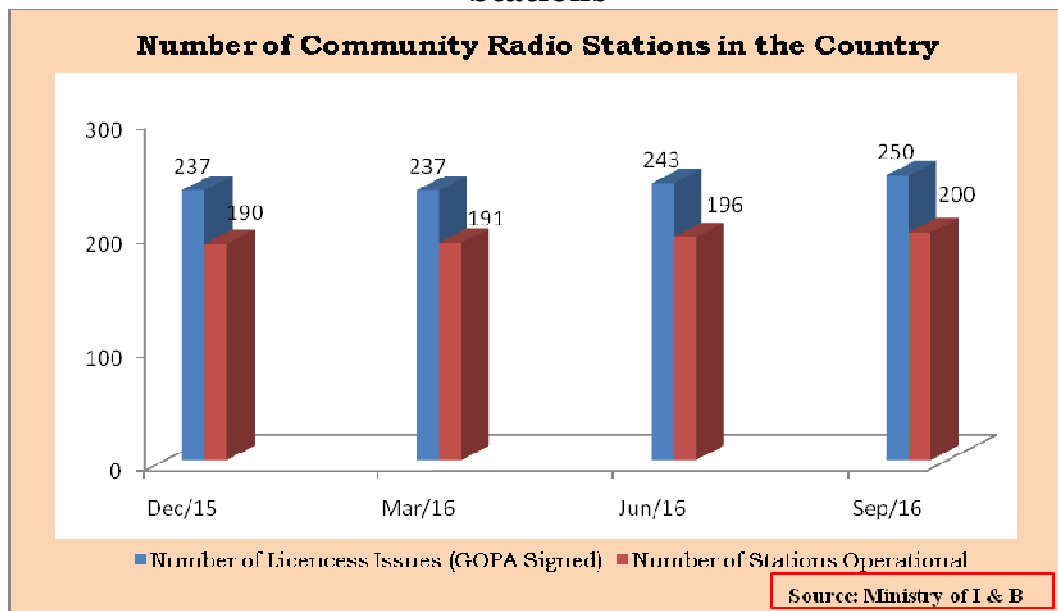
Chart 5.4 : Comparative position in FM Radio Advertisement Revenue



F. Community Radio

5.11 As on 30th September, 2016, out of the 250 licenses issued for setting up of Community Radio Stations (CRS), 200 stations are already operational. The quarterly growth in the number of community radio stations is depicted in the chart below.

Chart 5.5 : Quarterly Growth in number of Community Radio Stations



**Table 5.3 : Number of application received/Letters of Intent issued/
Licenses issued in respect of Community Radio Stations**

Sl. No.	Items	As on 30.09.2016
1	Total No. of Applications Received	1923
2	No. of Letters of Intent (LOIs) issued	545
3	No. of Applications rejected	1110
4	No. of Licenses issued (GOPA signed)	250
5	No. of Stations Operational	200

Source: Ministry of Information & Broadcasting (MIB)

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Annexures

Annexure 1.1: Licensed Cellular (GSM & CDMA) Service Providers

Sl. No	Service Provider	Area for which licensed with No.	UASL/UL(AS)	CMTS
1	Bharti	All India (22)	All India	
2	Aircel Group	All India (22)	All India except AP & TN	AP & Tamil Nadu
3	Reliance Communications Ltd	All India (except Assam & NE) (20)	All	
4	Reliance Telecom Ltd	Kolkata, MP, WB, HP, Bihar, OR, Assam & NE (8)	All	
5	Vodafone	All India (22)	All	
6	Tata Teleservices	All India except Assam, NE & J&K (19)	All	
7	IDEA	All India (22)	All India except Delhi, HP & UP(E)	Delhi, HP & UP(E)
8	Sistema Shyam Telelink	Delhi, Kol, Guj, KTK, TN incl. Chennai, Kerala, UP-W, Raj, WB (9)	All	
9	BSNL	All India (except Delhi & Mumbai) 20		All
10	MTNL	Delhi, Mumbai (2)		All
11	Telenor Communication (India) Pvt Ltd	MH, Guj, AP, UP-W, UP-E, Bihar, Assam (7)	All	
12	Videocon Telecommunications Ltd.	Guj, Haryana, UP-W, UP-E, MP, Bihar (6)	All	
13	Reliance Jio Infocomm Ltd	All India (22)	All	
14	Quadrant	Punjab (1)	Punjab	
15	Vmobi Solution Pvt. Ltd.	Mumbai	All	
16	Andhra Pradesh State Fibre Net Ltd.	A.P.	All	

Source: DoT website.

Annexure 1.2: Wireless Subscriber Base

Service Area	Vodafone (GSM)		Bharti (GSM)		Idea (GSM)		Aircel/Dishnet (GSM)		Reliance (GSM)		Reliance (CDMA)	
	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16
Andhra Pradesh	6,894,398	6,912,483	23,949,999	24,494,705	15,661,659	16,117,217	2,701,875	2,515,070	3,294,180	3,958,524	1,101,710	0
Assam	3,767,696	3,855,986	6,106,187	6,204,577	1,145,170	1,174,550	5,432,338	5,567,244	1,417,819	1,388,329		0
Bihar	9,496,221	9,307,676	29,003,028	29,246,581	11,001,449	11,037,306	7,249,253	7,346,370	3,263,336	3,415,983	1,163,256	0
Delhi	10,202,478	10,423,973	11,307,411	11,432,142	6,143,964	6,260,193	6,458,607	6,616,495	4,972,373	5,539,409	2,824,326	0
Gujarat	19,372,544	19,591,031	8,600,721	8,711,270	12,072,340	12,216,554	17,063	17,063	5,383,049	5,998,180	846,650	0
Haryana	5,536,474	5,546,922	3,248,189	3,333,550	4,810,980	4,790,900	3,092	3,092	1,626,025	1,544,821	0	0
Himachal Pradesh	736,466	733,571	2,886,253	2,917,431	813,623	815,076	1,106,961	1,106,934	1,615,994	1,595,450	0	0
Jammu & Kashmir	1,056,570	831,343	3,363,404	3,072,866	664,262	439,938	2,633,105	2,732,907	973,198	966,307	22	0
Karnataka	7,679,607	7,808,376	21,047,626	21,630,732	8,510,255	8,759,326	3,191,048	3,288,019	4,625,640	5,138,066	1,275,873	0
Kerala	7,548,548	7,693,378	4,396,649	4,530,673	10,559,627	10,811,853	321,701	365,865	1,361,655	1,451,767	818,685	0
Madhya Pradesh	7,014,078	6,906,951	13,161,158	13,374,101	21,902,610	22,040,127	20,694	20,694	9,174,977	10,110,279	1,951,424	0
Maharashtra	18,505,027	18,566,063	13,483,912	13,657,217	23,774,648	24,038,879	2,656,480	2,706,361	3,768,258	4,402,118	1,508,655	0
Mumbai	8,727,088	8,882,520	5,863,284	6,044,841	4,161,802	4,233,013	2,899,955	2,972,202	4,295,252	4,897,371	1,273,678	0
North East	1,578,990	1,619,313	3,925,056	4,015,546	495,176	525,281	3,335,036	3,438,367	412,385	385,134		0
Orissa	4,161,934	4,180,247	10,645,162	10,760,636	1,761,959	1,799,105	4,672,837	4,710,912	2,014,356	2,215,616	0	0
Punjab	5,147,562	5,178,416	8,037,799	8,217,016	6,485,668	6,465,841	1,105,683	1,145,068	1,613,559	1,645,613	0	0
Rajasthan	12,027,918	11,925,936	19,643,122	19,909,190	7,570,599	7,586,197	6,524,060	6,608,299	5,853,468	5,967,544	934,947	0
Tamil Nadu (incl. Chennai)	15,624,762	15,874,774	17,579,650	18,028,189	5,823,707	6,351,281	21,749,425	21,788,965	4,787,477	5,270,631	1,779,015	0
UP(E)	19,427,245	19,395,061	21,380,650	21,772,412	10,795,912	10,892,972	7,042,456	7,133,542	7,033,966	8,164,195	2,287,523	0
UP(W)	11,432,149	11,378,616	8,389,295	8,432,337	14,525,071	14,635,159	731,978	785,317	4,752,161	5,504,703	925,425	0
Kolkata	5,460,570	5,575,130	4,702,043	4,825,039	2,087,940	2,213,046	4,163,448	4,242,022	3,884,006	4,237,250	884,735	0
West Bengal	17,985,187	18,533,481	15,014,052	15,329,615	5,465,731	5,612,524	4,917,094	5,030,171	3,010,597	3,362,695	0	0
Total	199,383,512	200,721,247	255,734,650	259,940,666	176,234,152	178,816,338	88,934,189	90,140,979	79,133,731	87,159,985	19,575,924	-

Annexure 1.2 (contd.)

Service Area	Tata (GSM)		Tata (CDMA)		BSNL (GSM)		BSNL (CDMA)		MTNL (GSM)	
	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16
Andhra Pradesh	3,899,514	3,762,095	718,047	598,837	9,572,765	9,701,992	22,756	20,471		
Assam					1,270,745	1,327,008	66,353	66,446		
Bihar	1,221,008	1,171,990	462,452	422,311	3,475,208	3,771,984	42,153	0		
Delhi			2,074,731	1,813,846	-	-	-	-	2,319,473	2,324,062
Gujarat	2,642,635	2,615,361	292,291	254,635	3,771,196	4,052,292	47,253	44,121		
Haryana	2,633,411	2,553,980	363,668	327,932	3,081,978	3,454,967	5,198	4,793		
Himachal Pradesh	35,479	34,387	30,555	26,118	1,796,442	1,909,911	13,619	11,621		
Jammu & Kashmir					1,309,250	1,421,240	24,761	26,463		
Karnataka	6,897,863	6,717,093	355,214	330,371	6,968,678	6,890,040	56,598	51,436		
Kerala	1,450,630	1,425,436	101,733	90,777	7,799,040	8,247,510	112,462	104,348		
Madhya Pradesh	4,801,887	4,484,176	386,485	363,850	4,462,953	4,573,974	83,178	81,025		
Maharashtra	4,465,091	4,452,386	1,882,457	1,756,456	5,994,925	6,207,959	55,633	50,589		
Mumbai	2,221,159	2,189,416	912,004	818,092	-	-	-	-	1,270,970	1,288,665
North East					1,422,132	1,451,576	162,303	163,022		
Orissa	2,084,526	2,017,591	118,881	101,586	4,362,696	4,640,934	37,331	35,618		
Punjab	2,268,590	2,252,863	459,616	433,520	3,811,093	4,166,782	0	0		
Rajasthan	627,564	613,936	893,651	875,801	4,323,650	4,729,767	66,901	63,048		
Tamil Nadu (incl. Chennai)	4,338,850	4,193,173	177,002	159,701	8,738,858	8,802,836	44,095	41,493		
UP(E)	3,572,402	3,481,680	363,415	329,416	9,472,049	10,101,676	20,139	17,898		
UP(W)	2,985,712	2,878,750	416,284	376,249	4,565,827	4,973,867	1,896	1,854		
Kolkata	2,488,609	2,453,946	300,175	278,174	785,842	811,404	6,337	703		
West Bengal	387,366	359,800	43,421	38,049	1,617,566	1,671,836	70,657	70,850		
Total	49,022,296	47,658,059	10,352,082	9,395,721	88,602,893	92,909,555	939,623	855,799	3,590,443	3,612,727

Annexure 1.2 (contd.)

Service Area	Sistema (CDMA)		Quadrant (GSM)		Reliance Jio		Telenor (GSM)		Total		Net Additions
	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	
Andhra Pradesh						1,237,466	5,510,192	5,467,802	73,327,095	74,786,662	1,459,567
Assam						252,467			19,206,308	19,836,607	630,299
Bihar						988,639	9,564,596	9,855,323	75,941,960	76,564,163	622,203
Delhi	925,438	808,382				694,861			47,228,801	45,913,363	(1,315,438)
Gujarat	208,084	183,948				1,462,574	8,417,351	8,226,967	61,671,177	63,373,996	1,702,819
Haryana						678,893			21,309,015	22,239,850	930,835
Himachal Pradesh						176,772			9,035,392	9,327,271	291,879
Jammu & Kashmir						82,788			10,024,572	9,573,852	(450,720)
Karnataka	1,109,823	990,214				999,860			61,718,225	62,603,533	885,308
Kerala	334,215	297,058				578,635			34,804,945	35,597,300	792,355
Madhya Pradesh						893,309			62,959,444	62,848,486	(110,958)
Maharashtra						977,086	8,203,761	8,159,140	84,298,847	84,974,254	675,407
Mumbai						572,444			31,625,192	31,898,564	273,372
North East						106,560			11,331,078	11,704,799	373,721
Orissa						576,339			29,859,682	31,038,584	1,178,902
Punjab			2,933,294	2,975,399		790018			31,862,864	33,270,536	1,407,672
Rajasthan	2,125,520	1,902,826				961,505			60,591,400	61,144,049	552,649
Tamil Nadu (incl. Chennai)	737,153	622,257				1,066,478			81,379,994	82,199,778	819,784
UP(E)						894,394	12,595,116	12,624,993	93,990,873	94,808,239	817,366
UP(W)	149,871	128,297				850,054	8,799,952	8,523,574	57,675,621	58,468,777	793,156
Kolkata	527,667	478,321				598,666			25,291,372	25,713,701	422,329
West Bengal	1,470,462	1,306,805				539,937			49,982,133	51,855,763	1,873,630
Total	7,588,233	6,718,108	2,933,294	2,975,399	-	15,979,745	53,090,968	52,857,799	1,035,115,990	1,049,742,127	14,626,137

Annexure 1.3: Wireline Subscriber Base

Service Area	Bharti		Reliance		Quadrant		Sistema		Tata		MTNL		BSNL		Vodafone		Total		Net Additions
	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	Jun-16	Sep-16	
Andhra Pradesh	150,408	154,512	75,875	75,756	-	-	-	-	169,040	171,362	-	-	1,266,334	1,234,923	10,530	11,010	1,672,187	1,647,563	-24,624
Assam					-	-	-	-			-	-	156,019	155,682	1,890	1,950	157,909	157,632	-277
Bihar			6,824	6,299	-	-	-	-	13,190	13,081	-	-	305,941	302,111	1,110	1,170	327,065	322,661	-4,404
Delhi	1,239,478	1,254,086	174,616	174,416	-	-	-	-	132,550	134,909	1,615,253	1,612,218			22,290	24,120	3,184,187	3,199,749	15,562
Gujarat	75,381	76,021	74,575	73,694	-	-	-	-	86,541	87,407	-	-	1,117,336	1,104,443	5,280	5,370	1,359,113	1,346,935	-12,178
Haryana	21,820	22,416	4,397	4,397	-	-	-	-	36,746	36,974	-	-	294,316	290,269	30	-	357,309	354,056	-3,253
Himachal Pradesh			4,126	4,074	-	-	-	-	2,677	2,641	-	-	154,863	149,374	30	30	161,696	156,119	-5,577
Jammu & Kashmir					-	-	-	-			-	-	128,187	129,354			128,187	129,354	1,167
Karnataka	603,903	617,140	151,836	154,215	-	-	-	-	208,818	207,440	-	-	1,260,874	1,228,467	17,880	19,500	2,243,311	2,226,762	-16,549
Kerala	57,004	57,278	33,187	33,186	-	-	-	-	18,636	18,739	-	-	2,112,431	2,039,586	1,530	1,620	2,222,788	2,150,409	-72,379
Madhya Pradesh	267,937	272,973	19,736	19,732	-	-	-	-	16,732	16,380	-	-	726,579	724,554	390	420	1,031,374	1,034,059	2,685
Maharashtra	75,345	76,564	82,730	82,540	-	-	-	-	285,088	284,392	-	-	1,459,104	1,428,521	12,120	12,402	1,914,387	1,884,419	-29,968
Mumbai	351,227	351,977	253,122	255,230	-	-	-	-	534,595	533,345	1,868,635	1,848,292			18,147	19,914	3,025,726	3,008,758	-16,968
North East					-	-	-	-			-	-	122,922	122,655	150	150	123,072	122,805	-267
Orissa			3,290	3,293	-	-	-	-	8,277	8,334	-	-	280,002	278,217	990	1,080	292,559	290,924	-1,635
Punjab	113,381	117,126	21,284	21,284	256,881	259,732	-	-	16,890	16,979	-	-	635,124	616,366	930	930	1,044,490	1,032,417	-12,073
Rajasthan	47,239	48,304	20,734	20,164	-	-	58,115	58,671	11,826	11,771	-	-	635,392	621,367	1,890	2,010	775,196	762,287	-12,909
Tamil Nadu (incl. Chennai)	524,915	542,900	134,173	134,097	-	-	-	-	109,958	109,746	-	-	1,793,697	1,748,466	8,550	9,270	2,571,293	2,544,479	-26,814
U.P.(E)	62,930	63,816	35,081	34,822	-	-	-	-	15,202	15,485	-	-	387,814	383,493	1,200	1,170	502,227	498,786	-3,441
U.P.(W)	22,622	23,026	7,105	7,187	-	-	-	-	10,043	10,129	-	-	376,586	370,099	480	930	416,836	411,371	-5,465
Kolkata	117,877	119,150	69,160	69,154	-	-	-	-	48,422	49,255	-	-	641,246	630,643	4,860	5,190	881,565	873,392	-8,173
West Bengal			1,934	1,943	-	-	-	-	3,893	3,947	-	-	346,084	333,714	60	60	351,971	339,664	-12,307
Total	3,731,467	3,797,289	1,173,785	1,175,483	256,881	259,732	58,115	58,671	1,729,124	1,732,316	3,483,888	3,460,510	14,200,851	13,892,304	110,337	118,296	24,744,448	24,494,601	-249,847

Annexure 1.4: Service Area and Operator wise details of PCOs

Name of the Circle/Service Area	Service Provider	Number of PCOs as on 30.6.2016	Number of PCOs as on 30.9.2016	Net PCO increase/decrease	Percentage Growth/Decline (%)
Andhra Pradesh (Excluding Telangana)	Bharat Sanchar Nigam Ltd.	27,168	24,014	-3,154	-11.61
	Bharti Group	181	181	0	0
	Reliance Group	0	7,450	7,450	0
	Tata Group	2,885	2,703	-182	-6.31
Andhra Pradesh (Including Telangana)	Bharat Sanchar Nigam Ltd.	27,168	24,014	-3,154	-11.61
	Bharti Group	181	181	0	0
	Reliance Group	0	7,450	7,450	0
	Tata Group	2,885	2,703	-182	-6.31
Assam	Bharat Sanchar Nigam Ltd.	8,628	8,260	-368	-4.27
Bihar (excluding Jharkhand)	Bharat Sanchar Nigam Ltd.	1,641	1,641	0	0
	Tata Group	1	1	0	0
Jharkhand	Bharat Sanchar Nigam Ltd.	4,727	4,580	-147	-3.11
Bihar (including Jharkhand)	Bharat Sanchar Nigam Ltd.	6,368	6,221	-147	-2.31
	Tata Group	1	1	0	0
Delhi	Bharti Group	586	586	0	0
	Mahanagar Telephone Nigam Ltd./MTNL	54,618	53,956	-662	-1.21
	Reliance Group	0	130	130	0
	Tata Group	2,529	2,252	-277	-10.95
Gujarat	Bharat Sanchar Nigam Ltd.	23,066	22,666	-400	-1.73
	Bharti Group	15	14	-1	-6.67
	Reliance Group	0	615	615	0
	Tata Group	1,113	862	-251	-22.55
Haryana	Bharat Sanchar Nigam Ltd.	2,159	2,078	-81	-3.75
	Bharti Group	179	171	-8	-4.47
	Tata Group	43	38	-5	-11.63
Himachal Pradesh	Bharat Sanchar Nigam Ltd.	2,094	1,945	-149	-7.12
	Tata Group	24	14	-10	-41.67
Jammu & Kashmir	Bharat Sanchar Nigam Ltd.	2,579	2,422	-157	-6.09

Annexure 1.4 (Contd.)

Name of the Circle/Service Area	Service Provider	Number of PCOs as on 30.6.2016	Number of PCOs as on 30.9.2016	Net PCO increase/decrease	Percentage Growth/Decline (%)
Karnataka	Bharat Sanchar Nigam Ltd.	30,944	28,828	-2,116	-6.84
	Bharti Group	4,594	4,445	-149	-3.24
	Reliance Group	2,794	1,365	-1,429	-51.15
	Tata Group	1,446	1,118	-328	-22.68
Kerala	Bharat Sanchar Nigam Ltd.	22,575	20,446	-2,129	-9.43
	Bharti Group	533	518	-15	-2.81
	Reliance Group	461	180	-281	-60.95
	Tata Group	59	46	-13	-22.03
Kolkata	Bharat Sanchar Nigam Ltd.	5,478	5,338	-140	-2.56
	Bharti Group	30	28	-2	-6.67
	Reliance Group	0	128	128	0
	Tata Group	470	380	-90	-19.15
Madhya Pradesh (excluding Chhattisgarh)	Bharat Sanchar Nigam Ltd.	23,148	22,912	-236	-1.02
	Bharti Group	2,634	2,462	-172	-6.53
	Reliance Group	0	213	213	0
	Tata Group	874	760	-114	-13.04
Chhattisgarh	Bharat Sanchar Nigam Ltd.	1,723	1,709	-14	-0.81
Madhya Pradesh (including Chhattisgarh)	Bharat Sanchar Nigam Ltd.	24,871	24,621	-250	-1.01
	Bharti Group	2,634	2,462	-172	-6.53
	Reliance Group	0	213	213	0
	Tata Group	874	760	-114	-13.04
Maharashtra & Goa	Bharat Sanchar Nigam Ltd.	62,503	60,144	-2,359	-3.77
	Reliance Group	0	885	885	0
	Tata Group	11,024	10,401	-623	-5.65
Mumbai	Bharti Group	40	40	0	0
	Mahanagar Telephone Nigam Ltd./MTNL	77,944	77,247	-697	-0.89
	Reliance Group	0	3,345	0	0
	Tata Group	5,044	4,713	-331	-6.56
Maharashtra (including Mumbai & Goa)	Bharat Sanchar Nigam Ltd.	62,503	60,144	-2,359	-3.77
	Bharti Group	40	40	0	0

Annexure 1.4 (Contd.)

Name of the Circle/Service Area	Service Provider	Number of PCOs as on 30.6.2016	Number of PCOs as on 30.9.2016	Net PCO increase/decrease	Percentage Growth/Decline (%)
	Mahanagar Telephone Nigam Ltd./MTNL	77,944	77,247	-697	-0.89
	Reliance Group	0	4,230	4,230	0
	Tata Group	16,068	15,114	-954	-5.94
North East	Bharat Sanchar Nigam Ltd.	4,532	4478	-54	-1.19
Orissa	Bharat Sanchar Nigam Ltd.	2,395	2,366	-29	-1.21
	Tata Group	121	94	-27	-22.31
Punjab	Bharat Sanchar Nigam Ltd.	5,432	4,925	-507	-9.33
	Bharti Group	89	79	-10	-11.24
	Quadrant Televentures Ltd.	1,940	1,817	-123	-6.34
	Tata Group	267	233	-34	-12.73
Rajasthan	Bharat Sanchar Nigam Ltd.	10,473	9,142	-1,331	-12.71
	Bharti Group	211	211	0	0
	Reliance Group	462	95	-367	-79.44
	Sistema Shyam	9,727	9,727	0	0
	Tata Group	219	210	-9	-4.11
Tamilnadu (excluding chennai)	Bharat Sanchar Nigam Ltd.	51,947	46,979	-4,968	-9.56
	Bharti Group	7,342	7,062	-280	-3.81
	Reliance Group	2,324	1,150	-1,174	-50.52
	Tata Group	390	292	-98	-25.13
Chennai	Bharat Sanchar Nigam Ltd.	11,792	11,210	-582	-4.94
	Reliance Group	1,037	0	-1,037	-100.00
Tamil Nadu (including Chennai)	Bharat Sanchar Nigam Ltd.	63,739	58,189	-5,550	-8.71
	Bharti Group	7,342	7,062	-280	-3.81
	Reliance Group	3,361	1,150	-2,211	-65.78
	Tata Group	390	292	-98	-25.13
Uttar Pradesh-East	Bharat Sanchar Nigam Ltd.	14,441	12,997	-1,444	-10.00
	Bharti Group	122	117	-5	-4.10
	Tata Group	43	29	-14	-32.56

Annexure 1.4 (Contd.)

Name of the Circle/Service Area	Service Provider	Number of PCOs as on 30.6.2016	Number of PCOs as on 30.9.2016	Net PCO increase/decrease	Percentage Growth/Decline (%)
Uttarakhand	Bharat Sanchar Nigam Ltd.	1,947	1,496	-451	-23.16
Uttar Pradesh - West (excluding Uttarakhand)	Bharat Sanchar Nigam Ltd.	1,947	2,954	1,007	51.72
	Bharti Group	96	92	-4	-4.17
	Tata Group	247	184	-63	-25.51
Uttar Pradesh - West (including Uttarakhand)	Bharat Sanchar Nigam Ltd.	3,894	4,450	556	14.28
	Bharti Group	96	92	-4	-4.17
	Tata Group	247	184	-63	-25.51
West Bengal (excluding Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	7,161	5,833	-1,328	-18.54
	Tata Group	113	92	-21	-18.58
Andaman and Nicobar	Bharat Sanchar Nigam Ltd.	143	142	-1	-0.70
West Bengal (including Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	7,304	5,975	-1,329	-18.20
	Tata Group	113	92	-21	-18.58
Total		525,514	508,236	-17,278	-3.29

Annexure 1.5: Service Area & Operator wise details of Village Public Telephones

Name of Circle/Service Area	Service Provider	Number of VPTs as on 30.6.2016	Number of VPTs as on 30.9.2016	Net Addition	Percentage Growth/ Decline
Andhra Pradesh (Excluding Telangana)	Bharat Sanchar Nigam Ltd.	25,107	25,107	0	0
Andhra Pradesh (Including Telangana)	Bharat Sanchar Nigam Ltd.	25,107	25,107	0	0
Assam	Bharat Sanchar Nigam Ltd.	24,692	24,692	0	0
Bihar (excluding Jharkhand)	Bharat Sanchar Nigam Ltd.	38,941	38,941	0	0
Jharkhand	Bharat Sanchar Nigam Ltd.	28,821	28,821	0	0
Bihar (including Jharkhand)	Bharat Sanchar Nigam Ltd.	67,762	67,762	0	0
Gujarat	Bharat Sanchar Nigam Ltd.	18,054	18,054	0	0
Haryana	Bharat Sanchar Nigam Ltd.	6,678	6,678	0	0
Himachal Pradesh	Bharat Sanchar Nigam Ltd.	17,408	17,408	0	0
Jammu & Kashmir	Bharat Sanchar Nigam Ltd.	6,385	6,385	0	0
Karnataka	Bharat Sanchar Nigam Ltd.	27,451	27,451	0	0
Kerala	Bharat Sanchar Nigam Ltd.	1,372	1,372	0	0
Kolkata	Bharat Sanchar Nigam Ltd.	613	613	0	0
Madhya Pradesh (excluding Chhattisgarh)	Bharat Sanchar Nigam Ltd.	51,986	51,986	0	0
Chhattisgarh	Bharat Sanchar Nigam Ltd.	18,328	18,328	0	0
Madhya Pradesh (including Chhattisgarh)	Bharat Sanchar Nigam Ltd.	70,314	70,314	0	0
Maharashtra & Goa	Bharat Sanchar Nigam Ltd.	40,654	40,654	0	0
	Tata Group	1,282	1,282	0	0
Maharashtra (including Mumbai & Goa)	Bharat Sanchar Nigam Ltd.	40,654	40,654	0	0
	Tata Group	1,282	1,282	0	0
North East	Bharat Sanchar Nigam Ltd.	13,109	13,109	0	0
Orissa	Bharat Sanchar Nigam Ltd.	45,215	45,215	0	0
Punjab	Bharat Sanchar Nigam Ltd.	12,065	12,065	0	0
	Quadrant Televentures Ltd.	0	0	0	0
Rajasthan	Bharat Sanchar Nigam Ltd.	39,568	39,568	0	0
	Sistema Shyam	3,010	3,010	0	0
Tamilnadu (excluding chennai)	Bharat Sanchar Nigam Ltd.	13,837	13,837	0	0
Chennai	Bharat Sanchar Nigam Ltd.	1,655	1,655	0	0

Annexure 1.5 (contd.)

Name of Circle/Service Area	Service Provider	Number of VPTs as on 30.6.2016	Number of VPTs as on 30.9.2016	Net Addition	Percentage Growth/Decline
Tamil Nadu (including Chennai)	Bharat Sanchar Nigam Ltd.	15,492	15,492	0	0
Uttar Pradesh- East	Bharat Sanchar Nigam Ltd.	74,145	74,145	0	0
Uttarakhand	Bharat Sanchar Nigam Ltd.	15,381	15,381	0	0
Uttar Pradesh - West (excluding Uttarakhand)	Bharat Sanchar Nigam Ltd.	23,707	23,707	0	0
Uttar Pradesh - West (including Uttarakhand)	Bharat Sanchar Nigam Ltd.	39,088	39,088	0	0
West Bengal (excluding Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	36,958	36,958	0	0
Andaman and Nicobar	Bharat Sanchar Nigam Ltd.	352	352	0	0
West Bengal (including Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	37,310	37,310	0	0
Total		5,86,774	5,86,774	0	0

Annexure 1.6 : Internet Service Provider(ISP) wise Internet Subscriber base

S.No.	Name of the Service Provider:	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
1	Bharti Airtel Limited	49123613	46190480	95314093
2	Vodafone	33661838	35938402	69600240
3	Idea Cellular	23359999	30721386	54081385
4	Reliance Communications	18415503	16742512	35158015
5	Bharat Sanchar Nigam Ltd.	13095062	21598228	34693290
6	Aircel	12879346	7671967	20551313
7	Tata	9148816	8802476	17951292
8	Reliance Jio Infocomm Ltd	0	16003520	16003520
9	Telenor	14420692	47689	14468381
10	Mahanagar Telephone Nigam Ltd.	502966	1536945	2039911
11	Sistema Shyam	15990	1797216	1813206
12	Atria Convergence Technologies Pvt.Ltd.	0	1106869	1106869
13	Quadrant Televentures Ltd.	436569	234231	670800
14	You Broadband India Pvt. Ltd.	16531	587166	603697
15	Hathway Cable & Datacom Pvt. Ltd.	15693	540160	555853
16	Tikona	4991	395916	400907
17	GTPL Broadband Pvt. Ltd.	423	217400	217823
18	Asianet Satellite Communications Ltd.	0	195264	195264
19	D-Vois Broadband Private Limited	0	193200	193200
20	Syscon Infoway Pvt Ltd	34816	146509	181325
21	SITI Broadband Services Pvt. Ltd.	0	180748	180748
22	Alliance Broadband Services Pvt. Ltd.	0	166721	166721
23	DEN Networks Ltd	38	104451	104489
24	RailTel Corporation of India Ltd.	0	103550	103550
25	Five Network Solution (India) Ltd.	0	91630	91630
26	Ortel Communication Ltd.	0	76617	76617
27	Excitel Broadband Private Limited	0	76387	76387
28	Honesty Net Solutions (I) Pvt Ltd	517	64948	65465
29	Planet E-Shop Holdings India Ltd.	2583	51123	53706
30	Meghbela Cable & Broadband Servies (P) Ltd	0	50850	50850
31	Nextra Teleservices Pvt. Ltd.	0	45821	45821
32	R.K. Infratel Limited	4	43990	43994
33	Broadband Pacenet (I) Pvt. Ltd.	0	35877	35877
34	Home Systems Pvt. Ltd.	0	35296	35296
35	Citycom Networks Pvt. Ltd.	0	34185	34185
36	Limras Eronet Broadband Service Pvt Ltd	6053	25431	31484
37	Wish Net Pvt. Ltd.	0	28405	28405
38	Vasai Cable Pvt. Ltd.	0	25703	25703
39	Tata Communications Limited	1186	23509	24695

Annexure 1.6 (contd.)

S.No.	Name of the Service Provider:	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
40	DNA Infotel Pvt Ltd	0	23150	23150
41	Wan and Lan Internet Pvt. Ltd.	0	22925	22925
42	Chandra Net Pvt. Limited	53	22617	22670
43	Rajesh Multi Channel Pvt. Ltd.	319	21127	21446
44	GBPS Networks Pvt. Ltd.	0	16041	16041
45	Apna Telelink Ltd.	0	15373	15373
46	Southern Online Bio Technologies Ltd.	750	13607	14357
47	Ishan Netsol Pvt Ltd	12503	1473	13976
48	North East Dataa Network Pvt Ltd.	0	13700	13700
49	World Phone Internet Services Pvt Ltd	1234	12268	13502
50	Quest Consultancy Pvt. Ltd.	0	13131	13131
51	Geocity Network Solutions Pvt. Ltd.	0	12205	12205
52	Kappa Internet Services Pvt Ltd.	4729	7320	12049
53	Yashash Cable Network Pvt Ltd	0	11968	11968
54	City Online Services Ltd	0	10560	10560
55	Pioneerelabs	372	10022	10394
56	SmartLink Broadband Services	0	9317	9317
57	IKF Technologies Ltd	2899	5265	8164
58	Blazenet Ltd.	4069	3874	7943
59	CJM Consultancy Services Pvt. Ltd.	0	6357	6357
60	Intermedia Cable Communication Pvt Ltd	0	6055	6055
61	Spacenet Internet Services Pvt Ltd	0	6018	6018
62	Kaizen Infonet Pvt Ltd	314	5109	5423
63	Fusionnet Web Services Pvt. Ltd.	0	5422	5422
64	Readylink Internet Services Pvt Ltd	631	4584	5215
65	Siliguri Internet & Cable TV Pvt. Ltd.	0	5052	5052
66	Nettlinx Ltd.	822	4225	5047
67	Sikka Broadband(P) Ltd.	0	4974	4974
68	Narmada Cyberzone Pvt Ltd	1858	3097	4955
69	CJ Online Pvt. Ltd.	0	4344	4344
70	Rajesh Patel Net Services Pvt. Ltd.	346	3917	4263
71	United Telecoms Ltd.	200	3950	4150
72	Digital Network associates Pvt. Ltd	0	4011	4011
73	Swiftmail Communications Ltd.	1168	2630	3798
74	Shri Omkar Infocom Pvt. Ltd.	0	3494	3494
75	HCL Comnet Systems & Services Ltd.	3404	31	3435
76	Netplus Broadband Services Pvt. Ltd	0	3277	3277
77	Airgenie Communications Pvt. Ltd.	0	2931	2931
78	F/X Wireless Technology Services Pvt Ltd	0	2785	2785

Annexure 1.6 (contd.)

S.No.	Name of the Service Provider:	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
79	Multinet (Udaipur) Pvt. Ltd.	0	2681	2681
80	Sify Technologies Ltd.	1307	1184	2491
81	Speed Online.net Pvt. Ltd.	0	2339	2339
82	Sphier Infotech Pvt. Ltd.	0	2336	2336
83	WE INTERNET LIMITED	0	2032	2032
84	Star Broadband Services (I) Pvt Ltd	0	1998	1998
85	Hughes Communications India Ltd.	660	1332	1992
86	S.S.Netcom Pvt Ltd	0	1886	1886
87	Touch Net India Pvt. Ltd.	85	1768	1853
88	Capture Network Systems Pvt. Ltd.	276	1555	1831
89	Swiftnet Broadband Pvt Ltd	0	1582	1582
90	Digital2Virtual ISP Pvt. Ltd.	25	1432	1457
91	STN Communication & Advertising Pvt Ltd.	234	1026	1260
92	Aeroway Networks Pvt Ltd.	0	1197	1197
93	Harisree CableNet Pvt. Ltd.	0	1180	1180
94	Symbois Creations Pvt. Ltd.	14	982	996
95	Sab Infotech (Sab Industries)	0	956	956
96	delDSL Internet Pvt Ltd	0	941	941
97	Data Infosys Ltd.	25	779	804
98	Hathway Bhawani Cabletel & Datacom Pvt. Ltd.	0	773	773
99	Bhiwani Communications Pvt. Ltd.	243	429	672
100	Rajdhani Telecom Pvt. Ltd.	84	581	665
101	NetMagic Solutions(P) Ltd.	0	625	625
102	Primenet Global Ltd.	0	615	615
103	Elyzium Technologies Pvt. Ltd.	0	595	595
104	Correl IT Services Pvt. Ltd.	0	594	594
105	Japra Tele Link Pvt. Ltd.	0	531	531
106	Conjoinix Technologies Pvt Ltd	0	515	515
107	Gleam Worldwide Services Pvt. Ltd.	0	450	450
108	Rida Communication Pvt. Ltd.	0	448	448
109	Chetan Internet Services Pvt. Ltd.	0	438	438
110	Tamana Winet Pvt. Ltd.	0	413	413
111	Pulse Telesystems Pvt. Ltd.	0	385	385
112	Singh Internet Services Pvt. Ltd.	0	332	332
113	Barani Data Solutions Private Limited	220	108	328
114	Oasis Cable Pvt Ltd.	0	255	255
115	Gorakhpur Net Services Pvt. Ltd.	0	232	232
116	Oistel Telecom Pvt. Ltd.	0	207	207

Annexure 1.6 (contd.)

S.No.	Name of the Service Provider:	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
117	QBC Infotech Pvt. Ltd.	0	205	205
118	ERNET India	147	54	201
119	Khetan Cable Network (P) Ltd	0	195	195
120	Power Grid Corporation of India Ltd.	0	189	189
121	Microsense Pvt. Ltd.	0	176	176
122	Jetspot Networks Pvt. Ltd.	0	156	156
123	Shri Vinayagaa Internet Pvt Ltd	28	120	148
124	Dream Plus Multi Services Pvt. Ltd.	10	119	129
125	Reticule Infotech Pvt. Ltd.	0	128	128
126	Cityzone Infonet Pvt. Ltd	0	110	110
127	Trans Virtual Pvt. Ltd.	18	84	102
128	VIVA Communications Pvt Ltd	0	86	86
129	Sanyog Networks Pvt Ltd	0	79	79
130	Edge Telecommunications Pvt. Ltd.	0	76	76
131	West Bengal Electronics Industry Development Corp. Ltd.	0	53	53
132	Adya Tech One Services Pvt Ltd	0	50	50
133	AT&T Global Network Services India Private Limited	0	49	49
134	Telestra Telecommunications Pvt. Ltd.	0	49	49
135	Verizon Communications India Pvt. Ltd.	0	44	44
136	Novanet India Ltd.	0	16	16
137	Vcare Call Centres India Pvt. Ltd.	0	16	16
138	Airmesh Communications Limited	0	15	15
139	Financial Technologies Communications Ltd.	12	0	12
140	Tatanet Services Ltd	0	8	8
141	Essel Shyam Communications Limited	7	0	7
142	ABT Ltd.	3	2	5
143	Orange Business Services India Network Pvt. Ltd.	0	5	5
144	Nelco Ltd.	0	1	1
	Total	175182298	192300781	367483079

Note: Some wireless service providers exclude incidental data users from their subscriber base, based on minimum usage decided by them.

**Annexure 1.7: List of Service Providers which reported IP
Telephony Minutes for Q.E. Sep-16**

S. No.	Name of Service Providers which reported IP Telephony Minutes
1	Alliance Broadband Services Pvt. Ltd.
2	Asianet Satellite Communications Ltd.
3	Blazenet Ltd.
4	City Online Services Ltd.
5	Citycom Networks Pvt. Ltd.
6	Data Infosys Ltd.
7	delDSL Internet Pvt Ltd
8	Novanet Ltd.
9	Pipetel Communications Pvt. Ltd.
10	Pulse Telesystems Pvt. Ltd.
11	Sify Technologies Ltd.
12	Tata Communications Limited
13	Trikon Electronics Pvt. Ltd.
14	VIVA Communications Pvt. Ltd.
15	World Phone Internet Services Pvt. Ltd.
16	You Broadband & Cable India Pvt. Ltd.

Annexure 1.8: Service Area wise PMRTS subscriber Base

S.No.	Operative Area	Service Provider	Subscriber Base	
			31.06.2016	30.09.2016
1	Delhi (Faridabad/ Gurgaon)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	5770	5853
		Procall(Delhi)	2559	2561
		Procall (Faridabad)		
		Procall (Gurgaon)		
		Total	8329	8414
2	Mumbai (Navi Mumbai)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	8149	8232
		Smartalk (Mumbai)	476	515
		Bhilwara Telenet(Mumbai)	506	524
		Airtalk Solutions & Services Pvt. Ltd	249	250
		Total	9380	9521
3	Kolkata	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	2387	2463
		Total	2387	2463
4	TamilNadu (Chennai)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	6606	6707
		Quick Calls	267	264
		Total	6873	6971
5	Karnataka (Bangalore)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	7270	7351
		Quick Calls	256	258
		Total	7526	7609
6	Andhra Pradesh (Vishakhapatnam & Hyderabad)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	4853	4841
		Quick Calls (Hyderabad Urban)	933	947
		Total	5786	5788
7	Madhya Pradesh (Indore)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	995	1015
		Total	995	1015
8	Rajasthan (Jaipur)	Procall	301	305
		Arya Omnitalk Radio Trunking Services Pvt.Ltd.	504	505
		Total	805	810

Annexure- 1.8 (Contd.)

S.No.	Operative Area	Service Provider	Subscriber Base	
			31.06.2016	30.09.2016
9	Gujrat (Ahmedaba/Surat/Vadodara/ Bharuch/ Kutch/Amrela / Jamnagar)	Arya Omnitalk Radio Trunking Services Pvt.Ltd. (Ahmedaba/Surat/Vadodara / Bharuch)	6007	6006
		Inative Network Pvt. Ltd. (Ahmedaba/Surat/Vadodara / Bharuch/ Kutch/Amrela / Jamnagar)	1820	1820
		Total	7827	7826
10	Maharashtra (Pune)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	1385	1442
		Smartalk	451	455
		Total	1836	1897
11	Kerala (Cochin City & Quilon)	Wiwonet Solutions Pvt. Ltd.	264	269
		Arya Omnitalk Radio Trunking Services Pvt.Ltd.	482	510
		Total	746	779
		Grand Total	52490	53093

Annexure 2.1: GSM Service - Service Area wise Statistics for QE Sep-16

Key parameters for service areas of category-A

Service Area	% of pre-paid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
AP	95.29	140	24	193	198	391
Gujarat	93.65	112	9	178	151	330
Karnataka	92.48	151	34	192	181	373
MH	94.25	123	35	163	148	310
TN (incl. Chennai)	94.14	144	30	183	190	372

Key parameters for service areas of category-B

Service Area	% of pre-paid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Haryana	96.27	114	22	199	186	385
Kerala	96.04	195	12	199	233	431
MP	97.37	100	12	136	146	282
Punjab	92.73	146	77	212	209	421
Rajasthan	96.97	104	7	152	171	323
UP(E)	98.59	89	7	158	220	379
UP(W)	97.92	92	14	159	181	340
WB	98.99	88	17	157	199	357

Key parameters for service areas of category-C

Service Area	% of pre-paid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Assam	96.56	127	30	176	213	388
Bihar	99.19	86	5	170	229	399
HP	98.11	109	7	183	169	352
J&K	88.45	119	5	193	188	381
NE	97.79	134	52	161	156	318
Orissa	98.56	86	7	179	216	396

Key parameters for service areas of category-Metro

Service Area	% of pre-paid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Kolkata	92.49	110	12	169	177	346
Delhi	84.62	179	14	237	188	425
Mumbai	80.83	189	17	259	181	440

**Annexure 2.2: CDMA Full Mobility Service - Service Area wise Statistics
for QE Sep-16**

Key parameters for service areas of Category A

Service Area	% of Prepaid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
MH	89	120	6	97	87	184
Gujarat	76	247	2	86	56	143
TN (incl. Chennai)	82	248	1	74	71	145
Karnataka	87	169	3	116	124	241
AP	84	130	3	106	106	212

Key parameters for service areas of Category B

Service Area	% of Prepaid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
WB	99	61	4	173	168	341
Rajasthan	96	90	4	233	163	396
UP(E)	73	224	1	60	67	127
MP	88	116	3	212	180	392
Kerala	83	235	2	51	48	98
UP(W)	84	177	3	105	123	229
Haryana	89	88	3	217	197	415
Punjab	69	205	7	194	113	307

Key parameters for service areas of Category C

Service Area	% of Prepaid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Orissa	80	168	1	124	136	260
Bihar	89	126	6	166	177	343
HP	61	290	2	146	94	241
North East			NA			
Assam			NA			
J&K			NA			

Key parameters for service areas of Category Metro

Service Area	% of Prepaid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Kolkata	83	157	1	92	99	190
Delhi	82	166	3	171	133	305
Mumbai	60	324	1	69	71	140

Annexure 4.1: Performance of QoS Parameters for Cellular Mobile 2G Service

Performance Monitoring Report on Quality of Service of Cellular Mobile Service Providers for quarter ending, September, 2016																			
Name of Service Area	Name of Service Provider	Network Related Parameters									Customer Service Quality Parameters								
		Network Availability		Connection Establishment (Accessibility)			Connection Maintenance (Retainability)			POI	Metering and billing					Response time to the customer for assistance		Termination / closure of service	
		BTSS Accumulated downtime (not available for service) (%)	Worst affected BTSS due to downtime (%)	Call Set-up Success Rate (within licensee's own network)	SDCCH / Paging Chl. Congestion (%)	TCH Congestion (%)	Call Drop Rate (%)	Worst affected cells having more than 3% TCH drop (call drop) rate	Connection with good voice quality	Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter)	Metering and billing credibility - post paid	Metering and billing credibility - pre paid	Resolution of billing/charging complaints	Resolution of billing/charging complaints	Period of applying credit/ waiver/ adjustment to customer's account from the date of resolution of complaints	Accessibility of call centre/ customer care	Percentage of calls answered by the operators (voice to voice) within 90 seconds	%age requests for Termination / Closure of service complied within 7 days	Time taken for refund of deposits after closures
		≤ 2%	≤ 2%	≥ 95%	≤ 1%	≤ 2%	≤ 2%	≤ 3%	≥ 95%	≤ 0.5%	≤ 0.1%	≤ 0.1%	98% within 4 weeks	100% within 6 weeks	within 1 week of resolution of complaint	≥ 95%	≥ 95%	100% within 7 days	100% within 60 days
Andhra Pradesh	Aircel	0.11	0.25	98.76	0.09	0.31	0.47	2.39	97.23	0	0.03	0.01	100.00	100.00	100.00	97.36	96.44	100.00	100.00
	AIRTEL	0.09	0.02	97.89	0.83	1.34	1.06	1.51	96.88	0	0.01	0.03	100.00	100.00	100.00	99.68	91.46	100.00	100.00
	BSNL	1.47	1.99	97.97	0.57	1.46	0.72	2.75	98.00	0	0.00	0.00	100.00	100.00	100.00	96.00	95.00	100.00	100.00
	IDEA	0.06	0.01	99.25	0.65	0.73	0.81	2.89	97.05	0	0.06	0.26	99.97	100.00	100.00	99.06	98.10	100.00	100.00
	RCOM CDMA	0.19	0.78	96.42	0.00	0.27	0.12	0.00	100.00	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	RCOM GSM	0.26	1.27	99.36	0.03	0.59	0.21	0.60	99.27	0	0.09	0.08	100.00	100.00	100.00	99.05	89.51	100.00	99.97
	TELENOR	0.08	0.19	99.33	0.13	0.20	0.69	1.58	98.28	2	NA	0.00	100.00	100.00	NA	99.39	99.43	NA	NA
	TTSL CDMA	0.04	0.03	99.50	0.00	0.02	0.22	2.17	98.25	0	0.00	0.00	100.00	100.00	100.00	100.00	99.39	100.00	100.00
	TTSL GSM	0.04	0.01	98.97	0.06	0.09	0.52	2.66	97.79	0	0.00	0.00	100.00	100.00	100.00	98.03	95.25	100.00	100.00
	VODAFONE	0.06	0.17	99.86	0.08	0.14	0.41	3.07	99.10	0	0.08	0.13	100.00	100.00	100.00	100.00	97.27	100.00	100.00
Assam	Aircel	2.84	18.76	91.54	0.89	5.81	1.93	19.05	90.98	0	0.00	0.00	100.00	100.00	100.00	95.89	95.59	100.00	100.00
	AIRTEL	0.37	0.74	95.79	0.88	1.48	1.10	1.55	99.03	0	0.01	0.02	100.00	100.00	100.00	90.00	89.86	100.00	100.00
	BSNL	1.99	1.94	98.09	0.89	1.91	1.93	2.97	96.83	0	0.01	0.00	100.00	100.00	100.00	97.00	96.70	100.00	100.00
	IDEA	1.32	0.78	98.22	0.41	1.33	0.50	2.37	95.38	0	0.00	0.07	100.00	100.00	100.00	97.55	99.87	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.09	100.00	100.00	100.00	97.61	97.33	100.00	89.42
	VODAFONE	0.76	1.31	98.86	0.63	1.14	0.66	1.93	96.63	0	0.09	0.04	100.00	100.00	100.00	99.99	100.00	100.00	100.00
Bihar	Aircel	1.65	9.99	88.74	0.86	11.47	1.94	15.08	95.18	0	0.00	0.00	100.00	100.00	100.00	93.59	96.42	100.00	100.00
	AIRTEL	0.07	0.27	95.66	0.71	1.58	1.50	2.74	95.80	0	0.00	0.02	100.00	100.00	100.00	98.81	97.24	100.00	100.00
	BSNL	1.84	1.96	96.72	0.42	0.36	1.40	2.70	97.30	0	0.00	0.00	100.00	100.00	100.00	99.00	97.54	100.00	100.00
	IDEA	1.02	1.79	97.01	0.83	1.83	1.08	2.66	96.44	0	0.02	0.01	100.00	100.00	100.00	99.41	99.92	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.09	100.00	100.00	100.00	99.08	96.95	100.00	95.18
	TELENOR	0.26	0.60	97.46	0.79	1.84	1.18	6.05	96.43	1	NA	0.00	100.00	100.00	NA	99.71	98.65	NA	NA
	TTSL CDMA	0.23	0.00	97.82	0.00	0.55	0.27	1.32	98.26	0	0.01	0.00	66.67	66.67	100.00	100.00	99.62	100.00	100.00
	TTSL GSM	0.21	0.14	97.91	0.69	0.48	0.64	2.90	97.43	0	0.00	0.00	100.00	100.00	100.00	97.15	97.90	100.00	100.00
	VODAFONE	0.41	1.16	99.38	0.15	0.62	0.93	2.88	97.90	0	0.01	0.07	100.00	100.00	100.00	100.00	97.80	100.00	100.00
Chennai	BSNL	0.47	1.71	98.31	0.58	1.69	0.70	1.51	97.67	0	0.03	0.00	99.00	100.00	100.00	100.00	95.99	100.00	100.00

Annexure 4.1 (Contd.)

Delhi	Aircel	0.09	0.21	97.33	0.24	1.38	0.93	5.13	96.16	0	0.00	0.00	100.00	100.00	100.00	91.09	95.86	100.00	100.00
	AIRTEL	0.01	0.00	98.99	0.03	0.01	0.84	1.72	99.00	0	0.02	0.11	99.97	100.00	100.00	99.97	88.69	100.00	100.00
	IDEA	0.03	0.00	99.06	0.36	0.28	0.77	2.54	98.38	0	0.08	0.06	100.00	100.00	100.00	98.59	99.58	100.00	100.00
	MTNL	0.08	0.21	96.83	0.56	1.71	1.79	2.53	97.19	0	0.03	0.03	100.00	100.00	100.00	96.50	96.72	100.00	100.00
	MTS	0.04	0.00	99.09	0.00	0.03	0.36	1.95	99.16	0	0.02	0.02	100.00	100.00	100.00	98.87	95.37	100.00	100.00
	RCOM GSM	0.05	0.28	98.67	0.16	0.86	0.25	0.62	98.29	0	0.09	0.09	100.00	100.00	100.00	99.56	86.47	100.00	82.69
	TTSL CDMA	0.07	0.23	99.19	0.00	0.15	0.31	1.41	99.09	0	0.00	0.00	100.00	100.00	100.00	98.48	97.67	100.00	100.00
	VODAFONE	0.17	0.96	98.85	0.14	1.14	1.34	2.64	97.49	0	0.08	0.02	100.00	100.00	100.00	100.00	96.92	100.00	100.00
Gujarat	Aircel	0.02	0.00	98.70	0.03	0.03	0.49	2.77	96.59	0	0.00	0.00	100.00	100.00	100.00	96.64	98.44	100.00	100.00
	AIRTEL	0.14	0.34	98.88	0.09	0.83	0.75	1.97	97.11	0	0.01	0.05	99.97	100.00	100.00	99.91	93.90	100.00	100.00
	BSNL	1.57	1.17	97.60	0.06	0.37	0.41	1.31	100.00	0	0.02	0.02	100.00	100.00	100.00	97.00	97.79	100.00	100.00
	IDEA	0.05	0.11	99.20	0.37	0.33	1.06	2.42	96.50	0	0.04	0.06	99.98	100.00	100.00	98.75	99.61	100.00	100.00
	MTS	0.02	0.00	99.75	0.00	0.06	0.17	2.04	99.26	0	0.04	0.07	100.00	100.00	100.00	96.71	96.53	100.00	100.00
	RCOM GSM	0.10	0.92	99.68	0.03	1.16	0.18	0.50	98.60	0	0.09	0.09	100.00	100.00	100.00	99.62	83.74	100.00	94.27
	TELENOR	0.09	0.08	98.22	0.17	0.61	1.09	3.75	97.93	0	NA	0.00	100.00	100.00	NA	99.44	98.28	NA	NA
	TTSL CDMA	0.01	0.00	99.04	0.00	0.00	0.30	2.16	99.05	0	0.01	0.00	100.00	100.00	100.00	100.00	99.71	100.00	100.00
TTSL GSM	0.05	0.00	99.02	0.06	0.13	0.65	2.52	98.38	0	0.00	0.00	100.00	100.00	100.00	98.32	94.18	100.00	100.00	
VODAFONE	0.09	0.44	99.75	0.13	0.25	0.75	1.84	97.40	0	0.08	0.01	100.00	100.00	100.00	100.00	96.55	100.00	100.00	
Haryana	Aircel	0.22	0.00	97.78	0.00	0.00	0.00	0.02	99.98	0	0.00	0.00	100.00	100.00	100.00	98.53	99.86	100.00	100.00
	AIRTEL	0.11	0.11	99.27	0.30	0.40	0.93	0.53	98.43	0	0.03	0.07	100.00	100.00	100.00	100.00	93.57	100.00	100.00
	BSNL	1.01	1.43	98.17	0.34	0.67	1.50	1.22	97.77	0	0.03	0.00	100.00	100.00	100.00	100.00	99.43	100.00	100.00
	IDEA	0.05	0.10	97.63	0.42	0.57	0.77	2.68	97.70	0	0.08	0.04	100.00	100.00	100.00	99.69	98.19	100.00	99.91
	RCOM GSM	0.16	1.38	99.59	0.14	0.10	0.12	0.63	99.42	0	0.08	0.09	100.00	100.00	100.00	98.71	96.42	100.00	99.92
	TTSL CDMA	0.17	0.00	97.55	0.00	0.50	0.47	2.24	97.21	0	0.00	0.00	100.00	100.00	100.00	100.00	99.44	100.00	100.00
	TTSL GSM	0.12	0.35	98.08	0.09	0.54	0.66	2.64	96.80	0	0.00	0.00	100.00	100.00	100.00	98.41	97.88	100.00	100.00
	VODAFONE	0.07	0.16	99.79	0.10	0.21	0.70	2.24	97.75	0	0.08	0.05	100.00	100.00	100.00	100.00	98.43	100.00	100.00
Himachal Pradesh	Aircel	0.14	0.23	99.41	0.09	0.40	1.22	11.47	95.34	0	0.00	0.00	100.00	100.00	100.00	98.38	96.35	100.00	100.00
	AIRTEL	0.02	0.15	98.75	0.29	0.33	0.61	0.61	97.98	0	0.04	0.12	100.00	100.00	100.00	99.11	96.48	100.00	100.00
	BSNL	1.90	1.89	98.34	0.86	1.64	1.92	2.60	95.02	0	0.03	0.00	100.00	100.00	100.00	100.00	99.53	100.00	100.00
	IDEA	0.20	1.25	99.43	0.11	0.18	1.41	2.10	97.37	0	0.01	0.02	100.00	100.00	100.00	99.30	99.39	100.00	100.00
	RTL	0.15	1.45	95.64	0.27	0.77	0.40	1.63	96.55	0	0.08	0.09	100.00	100.00	100.00	99.10	96.51	100.00	100.00
	TTSL CDMA	0.02	0.00	99.24	0.00	0.02	0.08	1.87	98.00	0	0.00	0.00	100.00	100.00	100.00	100.00	99.60	100.00	100.00
	TTSL GSM	0.00	0.00	99.78	0.00	0.00	0.00	0.00	96.27	0	0.00	0.00	100.00	100.00	100.00	98.36	99.74	100.00	100.00
VODAFONE	0.02	0.00	99.86	0.02	0.14	0.74	2.29	97.32	0	0.05	0.03	100.00	100.00	100.00	100.00	99.52	100.00	100.00	

Annexure 4.1 (Contd.)

Jammu & Kashmir	Aircel	0.59	3.09	96.13	0.31	3.00	1.43	12.28	95.53	0	0.00	0.00	100.00	100.00	100.00	91.79	77.74	100.00	100.00	
	AIRTEL*	0.16	0.20	96.86	9.52	2.50	1.95	0.59	95.77	0	0.02	0.03	99.90	100.00	100.00	100.00	84.47	100.00	100.00	
	BSNL	1.44	0.66	98.74	0.62	1.25	0.83	2.48	96.67	0	0.01	0.00	100.00	100.00	100.00	100.00	99.00	100.00	100.00	
	IDEA	0.15	0.40	98.63	0.65	0.94	1.43	1.97	96.36	0	0.01	0.00	100.00	100.00	100.00	97.22	98.31	100.00	100.00	
	RCOM GSM	0.13	0.93	96.88	0.18	0.23	0.27	1.04	98.80	0	0.09	0.09	100.00	100.00	100.00	99.06	75.96	100.00	100.00	
	VODAFONE	1.32	9.38	99.32	0.11	0.68	0.81	2.40	98.44	1	0.01	0.00	100.00	100.00	100.00	100.00	93.39	100.00	100.00	
Karnataka	Aircel	0.11	0.11	99.05	0.06	0.26	0.67	2.92	97.18	0	0.00	0.00	100.00	100.00	100.00	95.93	96.84	99.77	100.00	
	AIRTEL	0.16	0.51	98.61	0.16	0.29	0.61	1.83	96.43	0	0.01	0.07	100.00	100.00	100.00	100.00	86.52	100.00	100.00	
	BSNL	1.16	1.80	98.46	0.21	0.88	0.70	2.07	97.24	0	0.04	0.00	99.78	100.00	100.00	99.00	96.56	100.00	100.00	
	IDEA	0.08	0.20	99.21	0.22	0.16	0.59	2.51	96.73	0	0.07	0.04	100.00	100.00	100.00	99.54	98.36	100.00	100.00	
	MTS	0.13	0.00	99.37	0.00	0.06	0.46	2.52	99.19	0	0.01	0.01	100.00	100.00	100.00	99.98	96.19	100.00	100.00	
	RCOM CDMA	0.39	1.02	97.77	0.00	0.80	0.20	0.78	99.36	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	RCOM GSM	0.29	1.25	98.65	0.10	0.44	0.11	0.40	99.28	0	0.09	0.09	100.00	100.00	100.00	99.57	82.75	100.00	86.46	
	TTSL CDMA	0.22	0.93	99.15	0.00	0.04	0.30	1.63	98.41	0	0.00	0.00	100.00	100.00	100.00	100.00	99.68	100.00	100.00	
	TTSL GSM	0.09	0.26	98.30	0.04	0.20	0.56	2.37	97.70	0	0.00	0.00	100.00	100.00	100.00	98.33	96.52	100.00	100.00	
VODAFONE	0.21	0.62	99.92	0.21	0.08	0.36	2.67	98.63	0	0.09	0.29	100.00	100.00	100.00	100.00	90.83	100.00	100.00		
Kerala	Aircel	0.10	0.15	99.38	0.05	0.08	0.55	4.71	96.89	0	0.00	0.01	100.00	100.00	100.00	97.54	98.61	100.00	100.00	
	AIRTEL	0.07	0.08	98.81	0.10	0.87	0.72	2.91	97.38	0	0.01	0.13	100.00	100.00	100.00	99.99	93.89	100.00	100.00	
	BSNL	0.27	0.04	98.86	0.20	1.14	0.63	0.80	99.90	0	0.02	0.01	100.00	100.00	100.00	98.00	97.39	100.00	100.00	
	IDEA	0.10	0.44	99.92	0.15	0.54	0.65	1.84	96.24	1	0.05	0.02	99.94	100.00	100.00	99.31	95.74	100.00	100.00	
	MTS	0.03	0.00	99.29	0.00	0.00	0.21	2.66	99.17	0	0.07	0.01	100.00	100.00	100.00	99.00	99.00	100.00	100.00	
	RCOM CDMA	0.08	0.33	98.23	0.00	0.73	0.20	1.93	99.06	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	RCOM GSM	0.20	0.96	98.86	0.02	0.11	0.09	0.85	99.50	0	0.09	0.09	100.00	100.00	100.00	98.23	93.19	100.00	91.36	
	TTSL CDMA	0.02	0.00	98.87	0.00	0.01	0.27	2.16	99.13	0	0.00	0.00	100.00	100.00	100.00	100.00	99.44	100.00	100.00	
	TTSL GSM	0.04	0.00	99.73	0.02	0.02	0.42	2.52	98.95	0	0.00	0.00	100.00	100.00	100.00	97.72	96.08	100.00	100.00	
VODAFONE	0.03	0.05	99.90	0.03	0.10	0.43	1.62	97.74	0	0.10	0.05	100.00	100.00	100.00	100.00	100.00	100.00	100.00		
Kolkata	Aircel	0.28	0.98	97.71	0.43	0.21	0.81	2.96	97.45	0	0.00	0.00	100.00	100.00	100.00	95.20	95.78	99.48	100.00	
	AIRTEL	0.02	0.00	99.29	0.02	0.02	0.61	2.42	98.18	0	0.01	0.05	100.00	100.00	100.00	82.68	89.80	100.00	100.00	
	BSNL	1.87	2.71	98.91	0.79	0.85	1.20	2.21	99.82	0	0.04	0.03	100.00	100.00	100.00	95.00	96.20	100.00	100.00	
	IDEA	0.09	0.30	99.77	0.09	0.04	0.26	0.15	97.02	0	0.06	0.03	100.00	100.00	100.00	99.42	99.25	99.96	100.00	
	MTS	0.03	0.00	99.84	0.00	0.00	0.57	2.37	99.90	0	0.04	0.04	100.00	100.00	100.00	99.15	95.56	100.00	100.00	
	RTL	0.49	1.34	97.07	0.15	0.30	0.13	0.46	98.89	0	0.09	0.09	100.00	100.00	100.00	99.05	93.42	100.00	89.33	
	TTSL CDMA	0.16	0.24	98.75	0.00	0.42	0.56	3.79	99.16	1	0.00	0.00	100.00	100.00	100.00	100.00	96.89	100.00	100.00	
	TTSL GSM	0.15	0.34	99.31	0.07	0.12	0.63	2.42	98.31	0	0.00	0.00	100.00	100.00	100.00	98.80	96.28	100.00	100.00	
VODAFONE	0.09	0.54	99.54	0.03	0.46	0.85	2.87	97.83	0	0.03	0.04	100.00	100.00	100.00	100.00	97.64	100.00	100.00		

Annexure 4.1 (Contd.)

Madhya Pradesh	Aircel	0.44	0.52	97.46	0.31	0.00	0.83	0.78	98.62	0	0.00	0.00	100.00	100.00	100.00	98.77	99.19	100.00	100.00
	AIRTEL	0.17	0.27	98.63	0.06	0.69	1.04	2.35	96.94	0	0.01	0.04	99.96	100.00	100.00	100.00	97.93	100.00	100.00
	BSNL	1.91	1.65	96.84	0.46	1.10	1.14	2.27	97.78	0	0.00	0.02	100.00	100.00	100.00	98.00	95.59	100.00	100.00
	IDEA	0.21	1.04	97.40	0.26	1.24	0.86	2.41	97.73	0	0.10	0.02	100.00	100.00	100.00	98.35	98.72	100.00	100.00
	RTL	0.33	1.49	95.89	0.10	0.68	0.20	0.72	98.61	0	0.09	0.09	100.00	100.00	100.00	99.72	92.83	100.00	95.83
	TTSL CDMA	0.25	0.70	98.90	0.00	0.00	0.33	2.84	99.10	0	0.00	0.00	100.00	100.00	100.00	100.00	99.30	100.00	100.00
	TTSL GSM	0.03	0.00	99.36	0.08	0.11	0.58	2.68	98.58	0	0.00	0.00	100.00	100.00	100.00	97.44	98.24	100.00	100.00
	VODAFONE	0.20	1.22	99.60	0.10	0.40	0.80	5.59	98.65	0	0.05	0.14	99.97	100.00	100.00	100.00	100.00	99.58	100.00
Maharashtra	Aircel	0.08	0.08	99.07	0.07	0.17	0.68	2.92	95.96	0	0.00	0.00	100.00	100.00	100.00	98.31	97.39	100.00	100.00
	AIRTEL	0.03	0.00	98.23	0.09	0.60	0.54	1.66	96.51	0	0.01	0.03	99.88	100.00	100.00	99.96	96.20	100.00	100.00
	BSNL	1.91	1.76	96.42	0.50	1.43	1.19	2.88	97.39	0	0.00	0.01	100.00	100.00	100.00	100.00	97.88	100.00	100.00
	IDEA	0.08	0.19	98.73	0.61	0.76	0.58	2.24	98.56	1	0.06	0.04	100.00	100.00	100.00	98.76	99.47	100.00	100.00
	RCOM CDMA	0.42	1.14	96.48	0.00	1.72	0.46	0.38	99.53	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	RCOM GSM	0.18	1.25	99.22	0.10	0.27	0.15	0.49	98.98	0	0.09	0.09	100.00	100.00	100.00	99.43	89.13	100.00	99.68
	TELENOR	0.21	1.03	98.60	0.19	0.32	0.99	3.67	97.33	0	NA	0.00	100.00	100.00	100.00	99.49	98.92	NA	NA
	TTML CDMA	0.05	0.00	98.16	0.00	0.90	0.62	2.67	99.91	0	0.00	0.00	100.00	100.00	100.00	100.00	99.80	100.00	100.00
TTML GSM	0.03	0.00	99.59	0.05	0.09	0.42	1.68	97.46	0	0.00	0.00	100.00	100.00	100.00	96.79	94.69	100.00	100.00	
VODAFONE	0.17	0.67	99.46	0.35	0.54	0.85	2.67	96.88	0	0.04	0.04	100.00	100.00	100.00	99.99	98.86	100.00	100.00	
Mumbai	Aircel	0.11	0.46	97.65	0.23	0.62	1.04	5.56	96.83	0	0.00	0.00	100.00	100.00	100.00	99.11	97.73	100.00	100.00
	AIRTEL	0.06	0.00	99.80	0.03	0.06	0.81	1.74	97.64	0	0.01	0.04	100.00	100.00	100.00	99.46	90.65	100.00	100.00
	IDEA	0.09	0.10	99.17	0.15	0.49	1.01	1.60	96.66	1	0.02	0.02	100.00	100.00	100.00	99.50	98.91	100.00	100.00
	MTNL	0.75	1.15	98.22	0.36	0.14	1.59	2.15	96.52	0	0.040	0.00	99.97	100.00	100.00	100.00	95.75	100.00	100.00
	RCOM GSM	0.05	0.44	99.60	0.13	0.33	0.19	0.50	99.20	0	0.09	0.09	100.00	100.00	100.00	99.12	81.87	100.00	78.96
	TTML CDMA	0.07	0.00	99.22	0.00	0.02	0.44	1.70	99.09	0	0.00	0.00	100.00	100.00	100.00	100.00	99.80	100.00	100.00
	TTML GSM	0.35	0.00	99.28	0.03	0.04	0.46	1.93	97.78	0	0.00	0.00	100.00	100.00	100.00	98.19	95.48	100.00	100.00
	VODAFONE	0.16	0.00	99.27	0.08	0.73	1.12	3.73	97.72	0	0.41	0.24	99.99	100.00	100.00	99.73	94.01	100.00	98.83
North East	Aircel	5.52	35.65	95.26	0.53	2.98	1.89	17.63	92.80	0	0.00	0.00	100.00	100.00	100.00	96.42	97.89	100.00	100.00
	AIRTEL	1.02	1.39	95.60	0.66	0.80	0.87	1.20	99.14	0	0.01	0.02	100.00	100.00	100.00	92.35	93.23	100.00	100.00
	BSNL	1.82	1.85	97.17	0.84	1.74	1.74	2.30	97.06	0	0.03	0.03	99.50	100.00	100.00	98.00	96.93	100.00	100.00
	IDEA	1.88	1.37	97.43	0.22	0.63	0.62	1.94	96.24	0	0.01	0.12	100.00	100.00	100.00	100.00	99.55	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08	0.09	100.00	100.00	100.00	96.23	97.19	100.00	69.05
	VODAFONE	1.69	1.81	98.38	0.75	1.62	0.82	1.77	97.03	0	0.04	0.04	100.00	100.00	100.00	99.99	100.00	100.00	100.00

Annexure 4.1 (Contd.)

Orissa	Aircel	0.46	1.94	97.31	0.44	1.95	1.24	10.08	95.92	0	0.00	0.00	100.00	100.00	100.00	96.59	98.89	100.00	100.00	
	AIRTEL	0.09	0.01	96.08	0.45	1.79	1.20	1.61	96.03	0	0.01	0.04	100.00	100.00	100.00	99.61	96.94	100.00	100.00	
	BSNL	1.31	1.96	98.36	0.88	1.50	1.92	2.93	97.61	0	0.02	0.03	100.00	100.00	100.00	99.00	99.90	100.00	100.00	
	IDEA	0.21	0.78	99.56	0.08	0.10	0.29	0.19	95.63	0	0.03	0.09	100.00	100.00	100.00	98.34	99.95	100.00	100.00	
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.09	100.00	100.00	100.00	98.58	96.36	100.00	90.19	
	TTSL CDMA	0.07	0.00	98.52	0.00	0.07	0.47	2.39	98.24	0	0.00	0.00	100.00	100.00	100.00	100.00	99.00	100.00	100.00	100.00
	TTSL GSM	0.07	0.02	98.75	0.14	0.59	0.41	1.50	97.52	0	0.00	0.00	100.00	100.00	100.00	96.84	97.73	100.00	100.00	
	VODAFONE	0.14	0.39	99.14	0.43	0.86	0.82	2.37	97.75	0	0.03	0.08	100.00	100.00	100.00	99.98	99.54	100.00	100.00	
Punjab	Aircel	0.17	0.20	97.79	0.15	0.72	0.87	2.82	96.86	0	0.00	0.00	100.00	100.00	100.00	96.71	95.85	100.00	100.00	
	AIRTEL	0.02	0.02	99.63	0.02	0.04	0.61	1.09	98.78	0	0.02	0.11	100.00	100.00	100.00	100.00	95.44	100.00	100.00	
	BSNL	0.71	1.90	97.27	0.55	0.89	0.48	1.17	96.51	0	0.02	0.00	100.00	100.00	100.00	100.00	99.56	100.00	100.00	
	IDEA	0.05	0.03	98.61	0.07	0.18	0.64	1.92	97.55	0	0.05	0.05	100.00	100.00	100.00	99.90	98.43	100.00	100.00	
	QTL	0.19	0.04	98.14	0.06	0.22	0.84	0.48	96.53	0	0.00	0.00	100.00	100.00	100.00	100.00	97.37	100.00	100.00	
	RCOM GSM	0.14	1.01	98.92	0.13	0.19	0.11	0.73	99.20	0	0.09	0.09	100.00	100.00	100.00	99.11	96.15	100.00	100.00	
	TTSL CDMA	0.03	0.00	98.67	0.00	0.02	0.21	2.76	98.92	0	0.00	0.00	100.00	100.00	100.00	100.00	99.49	100.00	100.00	
	TTSL GSM	0.05	0.04	98.69	0.03	0.14	0.46	1.82	96.99	0	0.00	0.00	100.00	100.00	100.00	98.36	95.79	100.00	100.00	
VODAFONE	0.03	0.01	99.70	0.05	0.30	0.60	2.87	98.05	0	0.07	0.03	100.00	100.00	100.00	100.00	97.02	100.00	100.00		
Rajasthan	Aircel	0.16	0.25	96.58	0.36	1.62	1.12	4.22	96.10	0	0.00	0.00	100.00	100.00	100.00	98.50	95.96	100.00	100.00	
	AIRTEL	0.17	0.25	97.36	0.57	1.46	0.78	1.25	98.46	0	0.01	0.02	100.00	100.00	100.00	99.52	97.37	100.00	100.00	
	BSNL	1.27	1.31	98.22	0.69	1.52	1.57	2.12	97.99	0	0.05	0.08	99.87	100.00	100.00	96.00	99.75	100.00	100.00	
	IDEA	0.07	0.03	99.54	0.23	0.17	0.63	2.07	97.13	0	0.06	0.18	100.00	100.00	100.00	99.15	99.71	100.00	100.00	
	MTS	0.11	0.00	98.90	0.00	0.13	0.55	1.56	99.16	0	0.05	0.04	100.00	100.00	100.00	99.95	97.08	100.00	100.00	
	RCOM CDMA	0.07	0.11	96.18	0.00	2.28	0.30	0.14	99.65	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	RCOM GSM	0.07	0.36	97.88	0.11	0.28	0.19	0.93	98.94	0	0.09	0.09	100.00	100.00	100.00	99.44	95.64	100.00	94.96	
	TTSL CDMA	0.00	0.00	97.60	0.00	1.31	0.31	2.96	98.73	0	0.00	0.00	100.00	100.00	100.00	100.00	99.63	100.00	100.00	
	TTSL GSM	0.00	0.00	99.20	0.12	0.20	0.59	2.86	98.71	0	0.00	0.00	100.00	100.00	100.00	95.43	98.22	100.00	100.00	
VODAFONE	0.12	0.50	99.52	0.20	0.48	0.78	2.98	96.54	0	0.08	0.08	100.00	100.00	100.00	100.00	98.76	100.00	100.00		
Tamil Nadu	Aircel	0.15	0.48	98.74	0.38	0.87	0.92	5.17	95.64	1	0.00	0.00	100.00	100.00	100.00	97.10	97.41	100.00	100.00	
	BSNL	0.90	1.81	98.87	0.23	0.63	0.92	2.39	96.85	0	0.02	0.00	100.00	100.00	100.00	100.00	98.00	100.00	100.00	
	IDEA	0.06	0.00	99.78	0.09	0.09	0.27	1.58	98.55	0	0.06	0.10	100.00	100.00	100.00	99.08	98.90	100.00	100.00	
	MTS	0.02	0.00	99.53	0.00	0.01	0.39	2.00	99.18	0	0.05	0.00	100.00	100.00	100.00	95.21	99.17	100.00	100.00	
	TTSL CDMA	0.10	0.00	98.04	0.00	0.11	0.18	1.07	98.59	0	0.00	0.00	100.00	100.00	100.00	100.00	98.93	100.00	100.00	
	TTSL GSM	0.08	0.04	99.52	0.05	0.01	0.45	2.00	98.77	0	0.00	0.00	100.00	100.00	100.00	98.70	97.16	100.00	100.00	
	VODAFONE	0.04	0.15	99.62	0.15	0.38	0.60	2.36	98.08	0	0.09	0.05	100.00	100.00	100.00	96.97	98.38	100.00	100.00	

Annexure 4.1 (Contd.)

TamilNadu+C hennai	AIRTEL	0.10	0.28	99.13	0.24	0.58	0.65	2.61	97.76	0	0.01	0.05	100.00	100.00	100.00	100.00	91.50	100.00	100.00
	RCOM CDMA	0.04	0.22	98.13	0.00	0.69	0.18	1.23	98.68	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	RCOM GSM	0.30	1.46	99.77	0.05	0.07	0.15	0.37	99.39	0	0.09	0.09	100.00	100.00	100.00	98.34	89.58	100.00	88.76
UP E	Aircel	0.22	0.93	99.03	0.49	0.46	0.76	2.77	97.44	0	0.03	0.00	100.00	100.00	100.00	98.42	95.02	100.00	100.00
	AIRTEL	0.57	1.74	95.05	0.60	0.82	1.16	2.76	96.27	0	0.00	0.02	99.98	100.00	100.00	100.00	98.64	100.00	100.00
	BSNL	1.75	1.81	98.68	0.66	1.76	1.26	2.58	96.50	0	0.10	0.09	98.30	100.00	100.00	99.00	98.80	100.00	100.00
	IDEA	0.35	1.03	99.07	0.53	0.87	1.06	2.55	96.59	1	0.05	0.10	100.00	100.00	100.00	99.42	99.80	100.00	100.00
	RCOM GSM	0.11	0.65	96.12	0.44	1.20	0.17	0.55	98.55	0	0.09	0.09	100.00	100.00	100.00	99.24	95.17	100.00	85.65
	TELENOR	0.19	0.16	97.26	0.61	1.68	1.43	8.71	94.96	0	NA	0.01	100.00	100.00	NA	98.94	99.63	NA	NA
	TTSL CDMA	0.18	0.75	97.91	0.00	0.21	0.12	2.14	99.97	0	0.00	0.00	100.00	100.00	100.00	100.00	99.26	100.00	100.00
	TTSL GSM	0.21	0.76	96.25	0.41	1.49	0.53	2.96	96.44	0	0.00	0.00	100.00	100.00	100.00	98.43	97.54	100.00	100.00
VODAFONE	0.13	0.51	98.89	0.28	1.11	1.00	4.18	95.77	0	0.08	0.01	100.00	100.00	100.00	100.00	98.69	100.00	100.00	
UP W	Aircel	0.12	0.35	98.70	0.24	0.63	0.77	2.91	96.55	0	0.00	0.00	100.00	100.00	100.00	98.41	99.18	100.00	100.00
	AIRTEL	1.15	0.98	98.05	0.50	1.53	1.42	2.55	96.68	0	0.01	0.08	100.00	100.00	100.00	100.00	97.37	100.00	100.00
	BSNL	1.59	1.78	98.23	0.60	1.19	1.31	2.25	96.18	0	0.00	0.00	99.87	100.00	100.00	100.00	97.95	100.00	100.00
	IDEA	0.12	0.29	98.26	0.74	1.13	1.11	2.81	95.98	0	0.11	0.00	99.97	100.00	100.00	99.43	99.53	100.00	100.00
	MTS	0.04	0.00	99.75	0.00	0.00	0.28	2.94	98.94	0	0.02	0.02	100.00	100.00	100.00	99.96	95.53	100.00	100.00
	RCOM GSM	0.04	0.28	98.91	0.17	0.47	0.15	0.43	98.66	0	0.09	0.09	100.00	100.00	100.00	99.14	96.13	100.00	91.95
	TELENOR	0.25	0.45	98.68	0.42	0.77	0.88	4.62	97.15	0	NA	0.00	100.00	100.00	NA	98.90	99.22	NA	NA
	TTSL CDMA	0.18	0.29	98.99	0.00	0.10	0.29	2.49	98.85	0	0.00	0.00	100.00	100.00	100.00	100.00	99.64	100.00	100.00
	TTSL GSM	0.18	0.41	98.04	0.21	0.43	0.54	2.82	96.96	0	0.00	0.00	100.00	100.00	100.00	98.03	98.70	100.00	100.00
VODAFONE	0.27	0.90	99.03	0.38	0.89	0.95	2.94	96.40	0	0.09	0.06	100.00	100.00	100.00	100.00	97.55	100.00	100.00	
West Bengal	Aircel	0.37	1.70	97.48	0.36	0.89	1.17	10.65	97.03	0	0.00	0.00	100.00	100.00	100.00	96.56	96.64	100.00	100.00
	AIRTEL	0.09	0.08	95.88	0.10	1.68	1.47	2.66	95.59	0	0.02	0.03	100.00	100.00	100.00	92.70	93.78	100.00	100.00
	BSNL	0.36	1.11	97.68	0.99	1.61	1.35	14.76	96.36	0	0.01	0.02	99.38	100.00	100.00	97.50	98.13	100.00	100.00
	IDEA	0.17	1.08	99.15	0.15	0.14	0.46	0.44	97.12	0	0.05	0.02	100.00	100.00	100.00	99.17	99.94	100.00	100.00
	MTS	0.13	0.00	99.64	0.00	0.11	0.71	2.63	99.61	0	0.05	0.02	100.00	100.00	100.00	98.72	95.38	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08	0.09	100.00	100.00	100.00	99.49	93.08	100.00	90.84
	TTSL CDMA	0.02	0.00	99.01	0.00	0.01	0.08	0.81	97.74	0	0.00	0.00	100.00	100.00	100.00	100.00	99.50	100.00	100.00
	TTSL GSM	0.04	0.00	99.05	0.23	0.09	0.57	2.66	97.79	0	0.00	0.00	100.00	100.00	100.00	98.57	99.39	100.00	100.00
VODAFONE	0.07	0.17	99.07	0.42	0.93	0.79	2.72	96.65	0	0.03	0.04	100.00	100.00	100.00	100.00	96.01	100.00	100.00	

*M/s Airtel = J&K QoS is not reported in the month of July, 2016 due to violence and thereafter mobile services interruption in J&K as directed by Zonal police headquarters

Annexure 4.2: Performance of QoS Parameters for Cellular Mobile 3G Service

Performance Monitoring Report on Quality of Service of Cellular Mobile Service Providers for quarter ending September , 2016										
Name of the Service Area / City	Name of Service Provider	Network Availability		Connection Establishment (Accessibility)			Connection Maintenance (Retainability)			POI
		BTS and Node-Bs Accumulated downtime (not available for service) (%age)	Worst affected BTSs and Node-Bs due to downtime (%age)	Call Set-up Success Rate (within licensee's own network)	SDOCH/Paging Channel and RRC Congestion (%age)	TCH and Circuit Switched RAB Congestion (%age)	Call Drop and Circuit Switched Voice Drop Rate: (%age)	Worst affected cells having more than 3% TCH drop (call drop) and Circuit Switched Voice Drop Rate: CBBH	Connections with good voice quality and Circuit Switch Voice Quality (CSV quality)	Point of Interconnection (POI) Congestion
Benchmark		≤ 2%	≤ 2%	≥ 95%	≤ 1%	≤ 2%	≤ 2%	≤ 3%	≥ 95%	≤ 0.5%
Andhra Pradesh	Aircel	0.13	0.09	98.14	0.64	0.88	0.30	2.72	99.81	0.00
	Airtel	0.10	0.12	98.09	0.14	0.00	0.36	1.11	98.90	0.00
	BSNL	0.80	1.77	98.00	0.83	0.87	0.40	1.97	99.77	0.00
	IDEA	0.05	0.00	99.74	0.16	0.18	0.22	1.19	99.70	0.00
Assam	Aircel	3.14	22.29	99.17	0.20	0.00	0.43	7.36	98.94	0.00
	Airtel	0.49	1.20	98.72	0.25	0.10	0.71	1.16	98.78	0.00
	BSNL	1.90	1.93	96.67	0.33	1.07	1.50	2.90	96.83	0.00
	RTL	0.20	0.69	99.89	0.04	0.03	0.09	0.37	99.88	0.00
	Vodafone	0.63	0.60	99.83	0.03	0.03	0.31	2.40	98.87	0.00
Bihar	Aircel	1.20	7.67	97.89	0.37	0.47	0.77	7.97	98.56	0.00
	Airtel	0.04	0.28	99.26	0.03	0.13	0.58	2.32	98.40	0.00
	BSNL	1.90	1.83	95.83	0.30	0.72	1.48	2.87	96.82	0.00
	RTL	0.11	0.17	98.43	0.02	0.02	0.05	0.26	99.85	0.00
Chennai	BSNL	0.67	1.63	98.00	0.57	0.93	1.30	1.80	97.07	0.00
Delhi	Airtel	0.02	0.00	98.98	0.15	0.16	0.52	2.70	98.78	0.00
	IDEA	0.09	0.00	99.83	0.06	0.02	0.37	2.13	98.44	0.00
	MTNL	0.11	0.90	96.85	0.61	1.67	1.70	2.07	96.30	0.00
	RCOM	0.20	0.83	99.96	0.01	0.01	0.20	0.95	96.61	0.00
	Vodafone	0.19	0.92	99.43	0.21	0.25	0.64	2.67	98.91	0.00
Gujarat	Airtel	0.18	0.77	99.46	0.01	0.03	0.18	1.81	99.48	0.00
	BSNL	1.23	1.57	98.33	0.57	0.63	1.20	2.30	100.00	0.33
	IDEA	0.05	0.09	99.75	0.18	0.05	0.33	1.94	98.75	0.00
	Tata	0.02	0.00	99.02	0.05	0.29	0.50	2.19	99.71	0.00
	Vodafone	0.04	0.16	99.80	0.11	0.04	0.18	1.27	99.06	0.00
Haryana	Airtel	0.11	0.14	99.11	0.00	0.00	0.08	0.57	97.55	0.00
	BSNL	0.87	1.47	99.00	0.77	0.40	0.57	1.23	97.67	0.00
	IDEA	0.02	0.00	99.18	0.38	0.19	0.34	2.74	98.94	0.00
	Tata	0.10	0.14	99.84	0.38	0.35	0.14	1.02	99.14	0.00
	Vodafone	0.08	0.11	99.79	0.01	0.00	0.27	2.20	98.02	0.00

Annexure 4.2 (Contd.)

Himachal Pradesh	Airtel	0.15	0.16	99.14	0.01	0.00	0.60	1.09	98.89	0.00
	BSNL	1.37	1.30	98.67	0.53	0.50	0.87	2.17	99.60	0.00
	IDEA	0.12	0.59	99.25	0.33	0.15	0.77	1.77	96.95	0.00
	RTL	0.23	0.89	99.34	0.08	0.01	0.05	0.26	99.78	0.00
Jammu & Kashmir	Airtel	0.43	2.93	97.70	0.29	0.09	1.40	10.78	98.01	0.00
	Airtel	0.37	0.47	99.08	0.06	0.07	1.25	3.26	98.44	0.00
	BSNL	1.20	0.00	97.33	0.37	0.47	0.83	2.83	96.47	0.00
	IDEA	0.14	0.12	99.58	0.24	0.21	1.14	1.58	97.16	0.00
	RCOM	0.56	1.47	99.86	0.06	0.06	0.09	0.86	99.85	0.00
Karnataka	Airtel	0.14	0.07	98.49	0.86	0.36	0.50	4.13	99.80	0.00
	Airtel	0.16	0.49	99.27	0.10	0.13	0.23	1.79	99.67	0.00
	BSNL	0.87	1.80	97.33	0.60	1.57	0.50	1.60	99.70	0.00
	Tata	0.08	0.25	98.76	0.74	0.81	0.26	1.02	99.08	0.00
	Vodafone	0.31	0.96	99.85	0.02	0.02	0.15	0.73	99.71	0.00
Kerala	Airtel	0.10	0.00	98.84	0.66	0.42	0.76	2.87	97.34	0.00
	BSNL	0.20	0.03	96.00	0.00	0.30	0.53	2.57	99.90	0.00
	IDEA	0.05	0.06	99.50	0.37	0.25	0.28	1.17	97.13	0.00
	Tata	0.03	0.00	99.11	0.08	0.16	0.32	1.83	99.75	0.00
	Vodafone	0.03	0.04	99.87	0.00	0.01	0.17	0.63	99.72	0.00
Kolkata	Airtel	0.27	0.96	99.32	0.31	0.19	0.31	2.95	97.89	0.00
	Airtel	0.01	0.00	99.54	0.00	0.00	0.27	1.90	99.00	0.00
	BSNL	1.80	4.00	97.33	0.57	0.97	1.40	2.23	99.80	0.00
	IDEA	0.12	0.47	99.91	0.00	0.01	0.20	0.39	99.81	0.00
	RTL	0.19	1.21	98.01	0.23	0.03	0.10	0.26	99.89	0.00
	Vodafone	0.09	0.42	99.90	0.01	0.01	0.31	1.76	98.94	0.00
Madhya Pradesh	Airtel	0.16	0.38	99.85	0.00	0.01	0.26	1.79	99.35	0.00
	BSNL	1.65	1.62	97.17	0.73	0.47	0.40	1.90	97.77	0.00
	IDEA	0.09	0.23	99.65	0.09	0.14	0.50	1.57	99.15	0.00
	RTL	0.24	0.94	98.08	0.07	0.01	0.08	0.29	99.88	0.00
	Tata	0.02	0.00	98.95	0.09	0.41	0.35	1.59	99.74	0.00
Maharashtra	Airtel	0.07	0.00	99.70	0.04	0.08	0.44	1.06	98.87	0.00
	BSNL	1.87	1.73	96.00	0.67	1.67	1.17	2.73	97.13	0.00
	IDEA	0.10	0.20	99.66	0.47	0.12	0.34	2.17	98.51	0.00
	Tata	0.00	0.00	99.03	0.13	0.18	0.42	2.38	100.00	0.00
	Vodafone	0.14	0.65	99.82	0.12	0.04	0.21	1.74	98.94	0.00
Mumbai	Airtel	0.08	0.00	98.80	0.01	0.03	0.39	1.83	99.39	0.00
	MTNL	0.64	1.17	96.74	0.59	0.32	1.63	2.77	98.87	0.00
	RCOM	0.25	1.37	99.58	0.12	0.06	0.11	0.37	99.69	0.00
	vodafone	0.14	0.00	99.76	0.00	0.00	0.41	1.63	98.84	0.00

Annexure 4.2 (Contd.)

North East	Aircel	6.47	42.72	97.84	0.64	0.07	1.57	16.32	98.83	0.00
	Airtel	1.25	1.80	97.26	0.74	0.19	1.28	1.06	98.55	0.00
	BSNL	1.48	1.57	96.83	0.68	1.63	1.58	2.18	97.08	0.00
	RTL	0.50	1.56	99.51	0.11	0.06	0.03	0.15	99.83	0.00
	Vodafone	1.11	0.63	99.64	0.09	0.10	0.63	2.82	98.90	0.00
Orissa	Aircel	0.55	1.68	97.87	0.21	0.10	1.07	11.12	98.86	0.00
	Airtel	0.02	0.00	99.57	0.04	0.22	0.41	1.72	99.22	0.00
	BSNL	1.53	1.83	97.00	0.83	1.80	1.70	2.67	97.57	0.00
	RTL	0.15	0.70	98.35	0.03	0.00	0.14	0.96	99.89	0.00
Punjab	Aircel	0.22	0.26	99.89	0.16	0.09	0.36	3.81	99.02	0.00
	Airtel	0.06	0.06	99.56	0.08	0.07	0.15	1.41	99.78	0.00
	BSNL	0.50	1.67	99.33	0.53	0.67	0.20	1.10	98.33	0.00
	IDEA	0.07	0.11	99.66	0.10	0.04	0.35	1.97	99.39	0.00
	RCOM	0.56	1.58	99.75	0.08	0.02	0.04	0.35	99.89	0.00
	Tata	0.06	0.07	99.06	0.31	0.58	0.14	0.69	99.13	0.00
Rajasthan	Airtel	0.25	0.22	99.61	0.04	0.04	0.59	1.40	98.87	0.00
	BSNL	1.30	1.73	98.33	0.43	0.40	1.23	2.40	97.17	0.00
	RCOM	0.37	1.11	99.42	0.08	0.06	0.10	0.37	99.85	0.00
	Tata	0.00	0.00	100.00	0.00	0.00	0.00	0.00	100.00	0.00
	Vodafone	0.22	0.79	99.90	0.00	0.01	0.24	2.85	98.90	0.00
Tamil Nadu	Aircel	0.16	0.61	98.82	0.24	0.05	0.51	5.33	98.70	1
	Airtel	0.07	0.15	99.90	0.01	0.02	0.18	1.47	99.05	0.00
	BSNL	0.53	1.73	99.00	0.00	0.20	0.30	2.30	99.67	0.00
	Vodafone	0.06	0.13	99.83	0.05	0.04	0.27	1.88	99.10	0.00
UP East	Aircel	0.21	0.73	98.35	0.04	0.00	0.50	3.26	99.50	0.00
	Airtel	0.81	1.77	99.89	0.18	0.11	0.38	1.99	99.17	0.00
	BSNL	1.50	1.57	96.67	0.83	0.73	1.47	2.77	96.50	0.00
	IDEA	0.38	1.71	99.64	0.62	0.11	0.56	2.29	98.18	0.00
	Vodafone	0.27	1.74	99.79	0.06	0.04	0.33	2.90	99.00	0.00
UP West	Airtel	1.31	0.95	99.20	0.04	0.00	0.58	1.42	98.87	0.00
	BSNL	1.52	1.62	97.50	0.85	1.07	0.92	2.47	96.43	0.00
	IDEA	0.32	1.20	99.35	0.87	0.39	0.32	2.87	98.90	0.00
	Tata	0.18	0.36	99.07	0.39	0.55	0.21	1.69	99.12	0.00
	Vodafone	0.27	1.46	99.70	0.03	0.01	0.35	2.60	98.72	0.00
West Bengal	Aircel	0.66	2.97	98.68	0.31	0.34	0.31	3.80	97.74	0.00
	Airtel	0.11	0.08	99.59	0.03	0.08	0.47	2.11	98.86	0.00
	BSNL	0.22	0.57	96.83	0.62	1.23	1.00	7.42	95.50	0.00
	RTL	0.35	1.50	97.91	0.03	0.04	0.29	0.72	99.85	0.00
	Vodafone	0.06	0.15	99.68	0.08	0.10	0.33	2.72	99.03	0.00

Note: J&K for Airtel for the month of July 2016 has not reported due to violence and thereafter mobile services interruption in J&K as directed by Zonal police headquarters

Annexure 4.3: Performance of QoS Parameters for Basic (Wire-line) Service

Quarterly Performance Monitoring (PMR) Report on QoS of Basic Telephone Services (wireline) for the quarter ending September, 2016

Name of Service Area	Name of Service Provider	Faults incidences (No. of faults/100 Subs./month)	Fault Repair				Rent Rebate	Mean Time to Repair (MTR)	POI Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark	Metering and Billing				Response time to the customer for Assistance		Termination / closure of service															
			% of faults repaired by next working day	% of faults repaired within 5 days	% of faults repaired by next working day	% of faults repaired within 7 days				Billing credibility - post paid	Metering and billing credibility - pre paid	Resolution of billing/charging/validity complaints	Period of applying credit/ waiver/ adjustment to customer's account from the date of resolution of complaints	Accessibility of call centre/ customer care	Percentage of calls answered by the operators (voice to voice) within 90 seconds	Page requests for Termination / Closure of service complied within 7 days	Time taken for refund of deposits after closures														
																		Benchmarks													
																		≤ 7	For urban areas by next working day: ≥ 85%	For urban areas: ≥ 100%	For rural and hilly areas: ≥ 75%	For rural and hilly areas: ≥ 100%	≤ 10 Hrs	≤ 0.5%	≤ 0.1%	≤ 0.1%	98% within 4 weeks	100% within 6 weeks	1 week of resolution of complaint	≥ 95%	≥ 95%
A&N	BSNL	5.00	91.00%	100.00%	91.00%	100%	13	7.00	0.00	0.10%	0.10	98.00%	100.00%	100.00%	100.00%	99.00%	100.00%	100.00%													
AP	Reliance	1.70	100.00%	100.00%	NA	NA	0	4.2	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%													
	TTSL	7.12	98.00%	100.00%	NA	NA	54	8.07	0.00%	0.01%	0.00%	100.00%	100.00%	100.00%	98.03%	97.76%	100.00%	100.00%													
	Vodafone	0.45	100.00%	NA	NA	NA	NA	1.40	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA													
	Bharti	3.90	92.88%	100.00%	NA	NA	0	4.66	0.00	0.03%	NA	100.00%	100.00%	100.00%	100.00%	60.00%	100.00%	100.00%													
	BSNL	5.00	94.00%	100.00%	90.00%	100%	229	7.00	0.00	0.01%	0.00	100.00%	100.00%	100.00%	92.58%	92.31%	100.00%	100.00%													
ASM	Vodafone	1.30	100.00%	NA	NA	NA	NA	1.45	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA													
	BSNL	4.00	98.00%	100.00%	90.00%	100%	153	3.00	0.00	0.04%	0.00	100.00%	100.00%	100.00%	99.19%	99.00%	100.00%	100.00%													
BH	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%													
	TTSL	1.27	94.00%	100.00%	NA	NA	0	12.21	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	97.15%	97.08%	100.00%	100.00%													
	Vodafone	2.59	100.00%	NA	NA	NA	NA	1.30	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA													
	BSNL	4.00	96.00%	100.00%	95.00%	100%	0	4.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	99.04%	99.00%	100.00%	100.00%													
Chattisgarh	BSNL	4.00	98.00%	100.00%	97.00%	100%	810	6.00	0.00	0.01%	0.01	99.00%	100.00%	100.00%	97.17%	97.13%	100.00%	100.00%													
CN	Reliance	0.03	100.00%	100.00%	NA	NA	0	4.9	0.00	0.02%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%													
	BSNL	5.00	97.00%	100.00%	97.00%	100%	1154	7.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	96.68%	93.98%	100.00%	100.00%													
DEL	Reliance	0.04	100.00%	100.00%	NA	NA	0	4.7	0.00	0.02%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%													
	TTSL	3.06	96.00%	100.00%	NA	NA	1	11.76	0.00%	0.02%	0.00%	100.00%	100.00%	100.00%	98.48%	94.68%	100.00%	100.00%													
	Vodafone	0.56	100.00%	NA	NA	NA	NA	1.56	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA													
	Bharti	5.55	87.33%	100.00%	NA	NA	991	5.51	0.00	0.05%	NA	100.00%	100.00%	100.00%	100.00%	64.00%	100.00%	100.00%													
	MTNL	7.19	77.64%	97.88%	NA	NA	26273	7.11	0.00	0.01%	0.00%	99.71%	100.00%	100.00%	99.71%	99.91%	100.00%	100.00%													
GUJ	Reliance	0.57	100.00%	100.00%	NA	NA	0	4.5	0.00	0.02%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%													
	TTSL	3.41	97.00%	100.00%	NA	NA	17	10.39	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.32%	98.20%	100.00%	100.00%													
	Vodafone	0.40	100.00%	NA	NA	NA	NA	1.08	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA													
	Bharti	2.49	93.45%	100.00%	NA	NA	6	5.32	0.00	0.03%	NA	100.00%	100.00%	100.00%	100.00%	76.00%	100.00%	100.00%													
	BSNL	5.00	96.00%	100.00%	92.00%	100%	733	5.00	0.00	0.03%	0.00	100.00%	100.00%	100.00%	97.75%	97.86%	100.00%	100.00%													
HP	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%													
	BSNL	5.00	91.00%	100.00%	94.00%	100%	425	7.00	0.00	0.03%	0.00	98.28%	100.00%	100.00%	96.00%	100.00%	100.00%	100.00%													

Annexure 4.3 (Contd.)

HR	Vodafone	0.00	100.00%	NA	NA	NA	NA	0.46	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	2.49	97.00%	100.00%	NA	NA	1	5.13	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.41%	96.82%	100.00%	100.00%
	Bharti	6.83	94.85%	100.00%	NA	NA	0	5.25	0.00	0.07%	NA	100.00%	100.00%	100.00%	100.00%	94.00%	100.00%	100.00%
	BSNL	6.00	93.00%	100.00%	92.00%	100%	551	6.00	0.00	0.10%	0.00	100.00%	100.00%	100.00%	96.13%	100.00%	100.00%	100.00%
J&K	BSNL	5.00	64.00%	100.00%	79.00%	100%	11	7.00	0.00	0.02%	0.00	98.00%	100.00%	100.00%	95.74%	100.00%	100.00%	100.00%
JHAR	BSNL	2.00	96.00%	100.00%	76.00%	100%	314	6.00	0.00	0.09%	0.00	98.00%	100.00%	100.00%	99.57%	99.67%	100.00%	100.00%
KER	Vodafone	0.31	100.00%	NA	NA	NA	NA	2.51	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
	Reliance	0.09	100.00%	100.00%	NA	NA	0	4.6	0.00	0.01%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
		0.89	100.00%	100.00%	NA	NA	0	6.26	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	97.72%	97.28%	100.00%	100.00%
	Bharti	6.19	92.48%	100.00%	NA	NA	3	8.43	0.00	0.03%	NA	100.00%	100.00%	100.00%	100.00%	94.00%	100.00%	100.00%
	BSNL	5.00	92.00%	100.00%	89.00%	100%	985	7.00	0.00	0.05%	0.00	99.82%	100.00%	100.00%	92.23%	92.26%	100.00%	100.00%
KOL	Vodafone	0.57	100.00%	NA	NA	NA	NA	2.50	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
	Reliance	0.09	100.00%	100.00%	NA	NA	0	4.3	0.00	0.01%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	Bharti	5.91	86.21%	100.00%	NA	NA	54	8.51	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	93.00%	100.00%	100.00%
	BSNL	6.00	90.00%	100.00%	NA	NA	389	8.00	0.00	0.00%	0.00	98.43%	100.00%	100.00%	99.53%	98.67%	100.00%	100.00%
KTK	Vodafone	0.46	100.00%	NA	NA	NA	NA	1.25	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
	Reliance	0.02	100.00%	100.00%	NA	NA	0	5.0	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	1.07	98.00%	100.00%	NA	NA	6	8.75	0.00%	0.02%	0.00%	100.00%	100.00%	100.00%	98.33%	96.54%	100.00%	100.00%
	Bharti	3.79	86.90%	100.00%	NA	NA	991	5.551	0.00	0.05%	NA	100.00%	100.00%	100.00%	100.00%	83.00%	100.00%	100.00%
	BSNL	4.00	95.00%	100.00%	95.00%	100%	5120	7.00	0.00	0.10%	0.00	98.00%	100.00%	100.00%	93.22%	93.03%	100.00%	100.00%
MH	Bharti	1.35	91.40%	100.00%	NA	NA	25	6.15	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	74.00%	100.00%	100.00%
	BSNL	5.00	91.00%	100.00%	87.00%	100%	954	7.00	0.00	0.01%	0.00	100.00%	100.00%	100.00%	96.75%	96.74%	100.00%	100.00%
	Reliance	0.09	100.00%	100.00%	NA	NA	0	4.8	0.00	0.03%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	Vodafone	0.37	100.00%	NA	NA	NA	NA	1.25	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
	TTSL	2.02	96.00%	100.00%	NA	NA	45	12.70	0.00%	0.01%	0.00%	100.00%	100.00%	100.00%	96.79%	95.95%	100.00%	100.00%
MP	Vodafone	2.22	100.00%	NA	NA	NA	NA	0.36	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
	Reliance	0.12	100.00%	100.00%	NA	NA	0	4.3	0.00	0.01%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	3.63	95.00%	100.00%	NA	NA	3	9.46	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	97.44%	98.12%	100.00%	100.00%
	Bharti	6.84	90.49%	100.00%	NA	NA	631	5.13	0.00	0.05%	NA	100.00%	100.00%	100.00%	100.00%	57.00%	100.00%	100.00%
	BSNL	5.00	87.00%	100.00%	85.00%	100%	564	4.00	0.00	0.10%	0.00	100.00%	100.00%	100.00%	97.26%	97.25%	100.00%	100.00%
MUM	Vodafone	0.39	100.00%	NA	NA	NA	NA	1.31	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
	Bharti	1.12	86.92%	100.00%	NA	NA	124	7.71	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	69.00%	100.00%	100.00%
	MTNL	6.50	89.82%	99.49%	NA	NA	32502	7.92	0.00	0.04%	NA	99.44%	100.00%	NA	100.00%	100.00%	100.00%	100.00%
	Reliance	0.04	100.00%	100.00%	NA	NA	0	4.3	0.00	0.02%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	4.99	90.00%	100.00%	NA	NA	269	20.60	0.00%	0.03%	0.00%	100.00%	100.00%	100.00%	98.19%	97.24%	100.00%	100.00%
NE	Vodafone	0.00	NA	NA	NA	NA	NA	0.00	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
NE-I	BSNL	4.00	93.00%	100.00%	91.00%	100%	125	7.00	0.00	0.00%	0.00	98.00%	100.00%	100.00%	99.37%	98.67%	100.00%	100.00%
NE-II	BSNL	3.00	97.00%	100.00%	99.00%	100%	78	3.00	0.00	0.01%	0.00	100.00%	100.00%	100.00%	99.32%	99.00%	100.00%	100.00%

Annexure 4.3 (Contd.)

OR	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	0.00	100.00%	100.00%	NA	NA	0	5.07	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	96.84%	100.00%	100.00%	100.00%
	BSNL	6.00	92.00%	100.00%	91.00%	100%	769	5.00	0.00	0.09%	0.00	99.00%	100.00%	100.00%	99.32%	98.67%	100.00%	100.00%
	Vodafone	2.01	100.00%	NA	NA	NA	NA	1.21	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
PB	Vodafone	0.66	100.00%	NA	NA	NA	NA	1.05	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
	Reliance	0.04	100.00%	100.00%	NA	NA	0	4.5	0.00	0.01%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	2.06	97.00%	100.00%	NA	NA	2	7.46	0.00%	0.03%	0.00%	100.00%	100.00%	100.00%	98.36%	97.01%	100.00%	100.00%
	Bharti	6.82	86.53%	100.00%	NA	NA	0	6.78	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	93.00%	100.00%	100.00%
	Quadrant	3.80	85.09%	100.00%	100.00%	100%	0	9.85	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	96.00%	96.00%	100.00%	100.00%
BSNL	5.00	92.00%	100.00%	93.00%	100%	997	6.00	0.00	0.05%	0.00	98.00%	100.00%	100.00%	96.28%	100.00%	100.00%	100.00%	
RAJ	Reliance	0.09	100.00%	100.00%	NA	NA	0	4.9	0.00	0.01%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	0.62	100.00%	100.00%	NA	NA	0	2.19	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	95.43%	98.74%	100.00%	100.00%
	Vodafone	0.76	100.00%	NA	NA	NA	NA	1.23	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
	Bharti	6.72	85.94%	100.00%	NA	NA	0	5.67	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	94.00%	100.00%	100.00%
	Sistema	3.28	90.92%	100.00%	89.38%	100%	0	8.29	0.00	0.05%	0.00%	100.00%	100.00%	100.00%	99.02%	97.87%	100.00%	100.00%
BSNL	6.00	93.00%	100.00%	96.00%	100%	624	6.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	97.08%	100.00%	100.00%	100.00%	
TN	Reliance	0.09	100.00%	100.00%	NA	NA	0	4.9	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	2.92	98.00%	100.00%	NA	NA	2	7.63	0.00%	0.01%	0.00%	100.00%	100.00%	100.00%	98.70%	96.88%	100.00%	100.00%
	Vodafone	0.63	100.00%	NA	NA	NA	NA	1.05	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
	Bharti	6.25	91.72%	100.00%	NA	NA	1275	8.57	0.00	0.08%	NA	100.00%	100.00%	100.00%	100.00%	67.00%	100.00%	100.00%
	BSNL	4.00	92.00%	100.00%	92.00%	100%	2538	8.00	0.00	0.09%	0.00	100.00%	100.00%	100.00%	93.03%	93.11%	100.00%	100.00%
UPE	Reliance	0.05	100.00%	100.00%	NA	NA	0	4.1	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	0.00	100.00%	100.00%	NA	NA	0	0.00	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.43%	100.00%	100.00%	100.00%
	Vodafone	0.51	100.00%	NA	NA	NA	NA	0.57	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
	Bharti	6.80	94.44%	100.00%	NA	NA	0	4.91	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%
	BSNL	5.00	93.00%	100.00%	94.00%	100%	584	6.00	0.00	0.06%	0.00	100.00%	100.00%	100.00%	96.77%	100.00%	100.00%	100.00%
UPW	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	TTSL	0.00	100.00%	100.00%	NA	NA	0	0.00	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.03%	100.00%	100.00%	100.00%
	Vodafone	1.11	100.00	NA	NA	NA	NA	1.54	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
	Bharti	6.92	99.22%	100.00%	NA	NA	0	3.7	0.00	0.04%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%
	BSNL	5.00	95.00%	100.00%	95.00%	100%	810	5.00	0.00	0.04%	0.00	100.00%	100.00%	100.00%	95.52%	100.00%	100.00%	100.00%
Uttaranchal	BSNL	5.00	92.00%	100.00%	95.00%	100%	233	4.00	0.00	0.00%	0.00	98.00%	100.00%	100.00%	96.75%	100.00%	100.00%	100.00%
West Bengal	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	98.88%	99.63%	100.00%	100.00%
	BSNL	6.00	91.00%	100.00%	92.00%	100%	432	5.00	0.00	0.09%	0.00	100.00%	100.00%	100.00%	99.22%	98.33%	100.00%	100.00%
	TTSL	1.59	98.00%	100.00%	NA	NA	0	7.68	0.00%	0.01%	0.00%	100.00%	100.00%	100.00%	98.57%	97.49%	100.00%	100.00%
	Vodafone	0.00	NA	NA	NA	NA	NA	0.00	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA

Annexure 4.4: Quality of Service Performance of Broadband Service Providers

Performance Monitoring Report on Quality of Service of Service Providers providing broadband service (wireline) for Quarter Ending September, 2016																			
Service Provider	Service area	Service Provisioning	Faults Repair		Billing Performance				Response Time to the Customer for assistance		Bandwidth utilisation/throughput				Service availability / uptime (for all users) in %age	Packet Loss	Network latency (for wired broadband access)		
		%age of connections provided within 15 days of registration of demand	% of faults repaired by next working day (>90%)	% of faults repaired within 3 working day	Rent Rebate	%age of bills disputed	%age of billing complaints resolved within 4 weeks	%age of cases to whom refund of deposits is made within 60 days of closures	%age of calls answered by operator (Voice to voice) within 60 sec	%age of calls answered by operator (Voice to voice) within 90 sec	No. of Intra network links having Bandwidth utilisation >90% during peak hours (TCBH)	No. of Upstream links for International connectivity having bandwidth utilisation >90% during peak hours (TCBH)	% International bandwidth utilization during peak hours (TCBH) [Enclose MRTG] <90%	Broadband Connection Speed available (download) from ISP node to user		Packet loss (for wired broadband access) in %age	User reference point at POP/ISP Gateway node to International gateway (IGSP/NIXI)	User reference point at ISP Gateway node to International nearest NAP port abroad (terrestrial)	User reference point at ISP Gateway node to International nearest NAP port abroad (satellite)
		100%	>90%	=>99%	in nos.	<2%	100% within 4 weeks	100% within 60 days	>60%	>80%	0	0	<90%	>80%	>98%	<1%	<120 ms	<350 ms	<800 ms
BSNL	All India	100.00%	93.62%	99.70%	24054	0.07%	100.00%	100.00%	96.06%	96.85%	0	0	61.60%	91.16%	99.80%	0.10%	26	190	NA
Bharti Airtel	Andhra Pradesh	100.00%	91.04%	100.00%	0	0.01%	100.00%	100.00%	50.00%	56.00%	0	0	47.85%	97.78%	99.99%	0.00%	40	53	NA
	Delhi	100.00%	90.77%	99.09%	0	0.01%	100.00%	100.00%	47.00%	54.00%	0	0	84.75%	109.00%	99.98%	0.00%	35	81	NA
	Gujarat	100.00%	96.07%	99.64%	0	0.02%	100.00%	100.00%	48.00%	55.00%	0	NA	NA	100.00%	99.99%	0.22%	47	64	NA
	Haryana	100.00%	91.17%	99.36%	0	0.01%	100.00%	100.00%	89.00%	93.00%	0	NA	NA	100.00%	99.98%	0.00%	36	81	NA
	Karnataka	100.00%	90.61%	99.70%	0	0.02%	100.00%	100.00%	68.00%	74.00%	0	0	63.81%	103.76%	99.99%	0.00%	27	42	NA
	Kerala	100.00%	92.83%	99.84%	0	0.03%	100.00%	100.00%	88.00%	90.00%	0	NA	NA	104.13%	99.99%	0.00%	47	35	NA
	Kolkata	100.00%	91.88%	99.99%	0	0.01%	100.00%	100.00%	85.00%	90.00%	0	0	59.77%	100.00%	99.99%	0.00%	72	89	NA
	Madhya Pradesh	100.00%	91.14%	99.29%	0	0.01%	100.00%	100.00%	43.00%	52.00%	0	0	65.15%	99.30%	99.95%	0.00%	73	70	NA
	Maharashtra	100.00%	91.14%	99.29%	0	0.01%	100.00%	100.00%	60.00%	67.00%	0	NA	NA	100.00%	99.96%	0.23%	37	64	NA
	Mumbai	100.00%	92.62%	99.16%	0	0.01%	100.00%	100.00%	53.00%	60.00%	0	0	75.11%	100.00%	99.97%	0.09%	30	70	NA
	Punjab	100.00%	91.52%	99.28%	0	0.01%	100.00%	100.00%	82.00%	87.00%	0	0	62.09%	100.00%	99.99%	0.00%	36	88	NA
	Rajasthan	100.00%	90.03%	99.53%	0	0.01%	100.00%	100.00%	88.00%	93.00%	0	NA	NA	100.00%	99.98%	0.00%	36	81	NA
	Tamilnadu	100.00%	92.93%	99.97%	0	0.02%	100.00%	100.00%	59.00%	66.00%	0	0	64.01%	100.40%	99.99%	0.00%	21	35	NA
Uttar Pradesh - East	100.00%	90.04%	99.13%	0	0.01%	100.00%	100.00%	89.00%	93.00%	0	0	68.18%	100.00%	99.98%	0.00%	38	91	NA	
Uttar Pradesh - West	100.00%	90.21%	99.37%	0	0.01%	100.00%	100.00%	90.00%	94.00%	0	NA	NA	100.00%	99.98%	0.00%	34	81	NA	
MTNL	Delhi & Mumbai	100.00%	81.62%	93.48%	22292	0.08%	100.00%	100.00%	96.47%	97.35%	Nil	0	73.02%	90.00%	99.90%	0.57%	43	279	NA
Alliance Broadband	Kolkata	100.00%	91.33%	99.67%	Nil	1.15%	100.00%	Nil	82.33%	91.00%	0	0	65.34%	97.47%	98.00%	0.68%	111	320	771
Asianet Satellite	Kerala	100.00%	90.05%	99.23%	Nil	1.89%	100.00%	100.00%	60.46%	80.57%	Nil	0	64.14%	90.00%	99.43%	1.00%	50	270	NA
Atria Convergence	All India	95.50%	80.15%	98.18%	Nil	0.39%	100.00%	Nil	61.00%	81.00%	0	0	85.24%	90.00%	99.84%	1.00%	50	300	NA
Broadband Pacenet India Pvt. Ltd.	All India	100.00%	90.40%	99.10%	90	1.00%	100.00%	Nil	82.00%	90.00%	0	0	61.07%	87.00%	99.30%	0.45%	75	260	0
Citycom Networks	All India	100.00%	90.50%	99.40%	1199	0.14%	100.00%	100.00%	81.70%	84.30%	0	0	46.00%	89.84%	99.10%	1.00%	2	163	NA
DEN Networks Ltd.	All India	100.00%	90.05%	99.06%	Nil	NA	NA	NA	92.13%	95.49%	Nil	Nil	78.47%	95.00%	99.27%	0.73%	35	277	NA
D-VoiS Broadband	All India	100.00%	97.00%	100.00%	-	1.39%	100.00%	-	88.86%	89.25%	0	Nil	Nil	90.00%	100.00%	0.10%	120	350	800
Excitel Broadband Private Limited	Delhi	100.00%	92.50%	99.20%	406	-	-	-	73.57%	93.07%	Nil	Nil	86.83%	99.20%	98.58%	0.00%	5	198	NA

Annexure 4.4 (Contd.)

Five Networks	All India	100.00%	99.50%	100.00%	NA	0.00%	100.00%	100.00%	NA	NA	NA	0	NA	90.00%	99.00%	1.00%	NA	NA	NA
GBPS Networks Pvt. Ltd.	Pune, Maharashtra	100.00%	91.16%	99.35%	Nil	0.00%	100.00%	Nil	61.41%	82.69%	0	0	80.00%	80.00%	99.73%	1.00%	4	255	600
Geocity Network Solutions	Delhi	100.00%	93.00%	100.00%	0	0.00%	100.00%	100.00%	68.00%	84.33%	0	0	87.67%	98.67%	99.30%	0.50%	60	300	400
GTPL Broadband Pvt.Ltd.	Gujarat	100.00%	94.00%	99.00%	488	0.12%	100.00%	NA	94.00%	99.00%	NA	0	85.27%	91.00%	99.23%	0.00%	11	300	NA
Hathway Cable & Datacom Ltd.	Andhra Pradesh	100.00%	96.57%	99.47%	149	1.50%	100.00%	100.00%	87.00%	91.00%	0	0	78.00%	90.00%	99.60%	0.58%	80	298	NA
	Delhi	100.00%	98.00%	99.00%	50	1.87%	100.00%	100.00%	75.00%	88.00%	0	0	61.00%	85.00%	99.59%	0.36%	115	325	NA
	Gujarat	100.00%	93.00%	99.00%	0	NA	NA	NA	87.00%	97.00%	0	0	75.00%	90.00%	99.85%	0.21%	79	265	NA
	Karnataka	100.00%	91.00%	99.46%	176	1.91%	100.00%	100.00%	89.00%	92.00%	0	0	77.00%	90.00%	99.64%	0.42%	84	277	NA
	Maharashtra & Goa	100.00%	95.00%	99.00%	2418	1.92%	100.00%	100.00%	95.00%	97.00%	0	0	76.00%	90.00%	99.41%	0.42%	78	260	NA
	Madhya Pradesh	100.00%	95.00%	99.00%	0	NA	NA	NA	78.00%	96.00%	0	0	62.00%	100.00%	99.50%	0.28%	80	287	NA
	Punjab	100.00%	95.00%	100.00%	0	1.70%	100.00%	100.00%	80.00%	90.00%	0	0	75.00%	85.00%	99.63%	0.45%	110	325	NA
	Uttar Pradesh - West	100.00%	99.00%	99.00%	0	0.00%	100.00%	100.00%	75.00%	88.00%	0	0	60.00%	85.00%	99.68%	0.22%	115	310	NA
	Kolkata	100.00%	100.00%	100.00%	0	NA	NA	NA	93.00%	100.00%	0	0	51.00%	100.00%	99.73%	0.56%	4	238	NA
Home Systems	Mumbai	100.00%	95.00%	99.99%	NA	0.00%	100.00%	NA	70.00%	89.00%	0	0	75.00%	95.00%	99.00%	0.01%	50	295	NA
Honesty Net Solutions (I) Pvt. Ltd.	Mumbai	100.00%	94.00%	100.00%	0	Nil	100.00%	0.00	68.00%	100.00%	0	NA	NA	95.00%	98.00%	1.00%	7	66	NA
Limras Eronet Broadband	Chennai	100.00%	99.00%	100.00%	0	1.00%	100.00%	0.00	90.00%	100.00%	0	0	70.00%	90.00%	99.00%	1.00%	44	235	0
Meghbela Cable & Broadband Services	Kolkata	100.00%	100.00%	100.00%	0	0.00%	100.00%	100.00%	93.00%	100.00%	0	0	0.00%	100.00%	99.90%	0.00%	60	150	0
	West Bengal	100.00%	100.00%	100.00%	0	0.00%	100.00%	100.00%	94.00%	100.00%	0	0	0.00%	100.00%	99.90%	0.00%	60	150	0
Nextra Teleservices Pvt.	Delhi	99.70%	91.00%	99.50%	3369	1.24%	100.00%	100.00%	95.00%	96.00%	0	0	85.00%	100.00%	100.00%	1.00%	120	350	NA
North East Dataa Network Pvt. Ltd.	Karnataka	100.00%	99.20%	99.99%	0	0.00%	100.00%	100.00%	99.50%	99.50%	0	0	70.00%	90.00%	99.00%	1.00%	100	300	NA
Ortel Communications	All India	100.00%	93.64%	99.71%	NA	NA	NA	NA	100.00%	100.00%	0	0	54.83%	92.00%	99.78%	0.00%	83	234	NA
Quadrant Televentures	Punjab	100.00%	94.51%	99.18%	0	0.01%	100.00%	100.00%	78.33%	83.67%	Nil	Nil	77.00%	100.00%	99.86%	0.00%	80	280	NA
RailTel Corporation	All India (Pan India)	100.00%	98.00%	100.00%	Nil	0.00%	100.00%	NA	89.17%	98.17%	17	0	63.85%	100.00%	99.63%	1.00%	120	350	NA
Rajesh Multichannel	Mumbai	100.00%	97.00%	100.00%	0	0.00%	100.00%	100.00%	95.00%	97.00%	0	0	87.00%	86.00%	99.00%	0.00%	46	250	500
Reliance Com. (RCL)	All India	100.00%	100.00%	100.00%	Nil	0.20%	100.00%	100.00%	98.00%	98.00%	Nil	Nil	21.00%	95.00%	99.00%	0.61%	2	1	1
RK Infratel Ltd.	Gujarat	100.00%	91.97%	99.15%	0	NA	100.00%	NA	100.00%	100.00%	0	0	84.91%	96.00%	99.82%	0.17%	120	350	NA
Siti Broadband	All India	100.00%	91.50%	99.54%	34	0.00%	100.00%	100.00%	68.00%	90.00%	0	0	75.00%	99.00%	99.65%	0.00%	48	267	NA
Southern (SOBTL)	Andhra Pradesh	100.00%	99.00%	100.00%	0	0.00%	100.00%	100.00%	93.00%	100.00%	0	0	75.00%	95.00%	99.84%	0.05%	100	300	500
	Maharashtra	100.00%	97.00%	100.00%	Nil	0.00%	100.00%	NA	76.00%	87.67%	0	0	90.01%	99.00%	100.00%	1.00%	1	47	80
	Mumbai	100.00%	96.33%	100.00%	Nil	0.00%	100.00%	Nil	82.33%	88.00%	0	0	80.00%	99.00%	100.00%	0.00%	1	47	80
Tata (TTML)	Maharashtra & Goa	99.95%	91.00%	98.00%	281	0.10%	100.00%	100.00%	93.00%	96.00%	0	0	79.66%	92.07%	99.00%	0.00%	47	180	Nil
Tata (TTSL)	All India (Pan India)	99.97%	95.00%	99.00%	94	0.10%	100.00%	100.00%	93.00%	96.00%	0	0	77.21%	93.81%	99.55%	0.00%	63	62.3	Nil
Vasai Cable	Mumbai	100.00%	95.71%	100.00%	Nil	0.12%	100.00%	Nil	96.48%	97.55%	Nil	0	63.00%	90.00%	100.00%	1.00%	4	255	NA
Wish Net Pvt. Ltd.	West Bengal	100.00%	98.78%	100.00%	0	0.04%	100.00%	NA	81.67%	97.67%	0	0	73.86%	100.00%	99.88%	1.00%	20	NA	NA
	Kolkata	100.00%	98.88%	100.00%	0	0.01%	100.00%	NA	81.67%	97.67%	0	0	74.74%	100.00%	99.88%	1.00%	40	NA	NA
Yashash Cable Network Pvt.	Karnataka	89.55%	84.12%	95.47%	18	0.00%	NA	NA	61.78%	81.82%	0	0	0.00%	80.00%	98.00%	1.00%	30	280	0
You Broadband	All India	99.73%	92.60%	99.95%	1918	0.00%	100.00%	100.00%	90.00%	95.00%	NA	0	76.43%	87.03%	99.26%	0.00%	9	277	NA
		DNF= Data not as per Format					NR= Data not reported by the Service Provider					NA = Not Applicable			C/DNF= Complied the parameter but Data is not in the required				

Annexure 5.1: List of Broadcasters and their Pay TV Channels as reported to TRAI

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
1	M/s 9X Media Private Limited	1	9XM	SD
2	M/s AETN 18 Media Pvt Limited	2	The History Channel	HD
		3	FY1 TV18	HD
3	M/s Asianet Communications Limited	4	Asianet	SD
		5	Asianet Plus	SD
		6	Asianet Movies	SD
		7	Suvarna Plus	SD
		8	Asianet HD	HD
		9	Star Suvarna (Earlier name "Suvarna")	SD
4	M/s B4U Television Network India Limited	10	B4U Movies	SD
5	M/s Bangla Entertainment Private Limited	11	AATH	SD
6	M/s BBC Global News India Private Limited	12	BBC World News	SD
7	M/s Bennett, Coleman & Company Limited	13	Zoom	SD
		14	Romedy Now	SD
		15	MN +(Earlier name "Movies Now +")	HD
		16	Magicbricks Now	SD
		17	ET NOW	SD
		18	Times Now	SD
		19	Romedy Now HD	HD
		20	Movies Now HD	HD
		21	Movies Now 2 HD	HD
		22	Movies Now 2	SD
		23	Times Now HD	HD
8	M/s Business Broadcast News Private Limited	24	Bloomberg TV India	SD
9	M/s Celebrities Management Pvt Limited	25	Travel XP HD (Earlier name "Travel XP")	HD
10	M/s Greycells18 Media Limited	26	Topper TV (Ad free channel)	SD
11	M/s Discovery Communications India	27	Animal Planet	SD
		28	Discovery Channel	SD
		29	Discovery Channel – Tamil	SD
		30	Discovery Kids Channel	SD
		31	Discovery Science	SD
		32	Discovery Turbo	SD
		33	ID Investigation Discovery	SD
		34	Discovery HD World (earlier name "Discovery HD")	HD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		35	Animal Planet HD World (earlier name "Discovery Home and Health")	HD
		36	TLC HD world (earlier name "Military Channel")	HD
		37	TLC	SD
12	M/s Da Vinci Media India Private Limited	38	Da Vinci Learning	HD
13	E-24 Glamour Limited	39	E 24	SD
14	M/s Eenadu Televisoin Private Limited	40	ETV Telugu	SD
		41	ETV Andhra Pradesh (earlier name "ETV-2")	SD
		42	ETV - Telangana (earlier name "ETV-3")	SD
		43	ETV Cinema	SD
		44	ETV Life	SD
		45	ETV Plus	SD
		46	ETV Abhiruchi	SD
		47	ETV HD	HD
15	M/s EPIC Television Networks Pvt Limited	48	EPIC TV (HD Distribution)	HD
16	M/s Genx Entertainment Limited	49	UTV Bindass	SD
		50	UTV Action	SD
17	M/s IBN Lokmat News Private Ltd	51	IBN Lokmat	SD
18	M/s Mavis Satcom Limited	52	J Movies	SD
		53	Jaya Max	SD
		54	Jaya Plus	SD
		55	Jaya TV HD	HD
19	M/s ABP News Network Pvt Limited	56	ABP Ananda	SD
		57	ABP Majha	SD
20	M/s Sony Pictures Networks Distribution India Private Limited	58	Animax	SD
		59	AXN	SD
		60	SET MAX	SD
		61	MIX	SD
		62	SAB	SD
		63	SONY ENTERTAINMENT CHANNEL (SET)	SD
		64	PIX	SD
		65	SIX	SD
		66	MAX 2 (Earlier name "MAX HD")	SD
		67	PAL (Earlier Name "SAB HD")	SD
		68	SET HD	HD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		69	SIX HD	HD
		70	PIX HD	HD
		71	MAX HD	HD
		72	SONY ESPN HD	HD
		73	Le PLEX HD	HD
		74	SAB HD	HD
21	M/s NDTV Life style Limited	75	NDTV Good Times	SD
22	M/s Neo Sports Broadcast Pvt Limited	76	NEO Prime (Earlier name "Neo Cricket")	SD
		77	Neo Sports	SD
23	M/s New Delhi Television Limited	78	NDTV 24*7	SD
		79	Granada TV (HD)	HD
		80	Trace Sports HD	HD
		81	NDTV Profit	SD
24	M/s NGC Network (India) Pvt Limited	82	Fox Life	SD
		83	National Geographic Channel (NGC)	SD
		84	Fox Life HD	HD
		85	Nat Geo Wild	SD
		86	National Geographic HD	HD
		87	Nat Geo Music HD	HD
		88	Nat Geo Wild HD	HD
		89	Nat Geo People HD	HD
		90	Baby TV HD	HD
25	M/s Odisha Television Limited	91	Prarthana	SD
		92	Tarang	SD
		93	Tarang Music	SD
		94	Alankar	SD
26	M/s Panorama Television Private Limited	95	ETV Bihar Jharkhand	SD
		96	ETV MP Chattisgarh	SD
		97	ETV Rajasthan	SD
		98	ETV Uttar Pradesh Uttarachal	SD
		99	ETV Urdu	SD
		100	ETV News Kannada	SD
		101	ETV News Bangla	SD
		102	ETV Haryana / Himanchal Pradesh	SD
		103	ETV News Gujarati	SD
		104	ETV News Odia	SD
27	M/s Paul Entertainments Pvt Limited	105	9X Tashan (Earlier name "Purvaiya")	SD
28	M/s Raj Television Network Limited	106	Raj Musix Kannada	SD
		107	Raj Digital Plus	SD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		108	Raj Musix	SD
		109	Raj News	SD
		110	Raj TV	SD
		111	Vissa TV	SD
29	M/s Sahara India Commercial Corporation Ltd	112	Sahara Filmy	SD
		113	Sahara One	SD
30	M/s Sarthak Entertainment Pvt Limited	114	Sarthak TV	SD
31	M/s Silverstar Communications Limited	115	Mega 24	SD
		116	Mega Musiq	SD
		117	Mega TV	SD
32	M/s Star India Private Limited	118	Channel (V)	SD
		119	Star Sports 4	SD
		120	FX	SD
		121	Life Ok (earlier name "Star One")	SD
		122	Movies OK (earlier name "Gold Action")	SD
		123	Star Sports 3	SD
		124	Star Gold	SD
		125	Star Jalsha	SD
		126	Star Movies	SD
		127	Star Movies Action	SD
		128	Star Plus	SD
		129	Star Pravah	SD
		130	Star Sports 1	SD
		131	Star Sports 2	SD
		132	Star World	SD
		133	Jalsha Movies (Earlier name "Star Bengali")	SD
		134	Star Sports HD 2	HD
		135	Star Sports HD 1	HD
		136	Life Ok HD	HD
		137	Star Gold HD	HD
		138	Star Movies HD	HD
		139	Star Plus HD	HD
		140	Star World Prmiere HD	HD
		141	Star Sports HD 3	HD
		142	Star Sports HD 4	HD
		143	Star Movies Select HD	HD
		144	Star World HD	HD
		145	FX HD	HD
		146	MAA Gold	SD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		147	MAA Movies	SD
		148	MAA Music	SD
		149	MAA TV	SD
		150	Star Pravah HD	HD
		151	Star Jalsha HD	HD
		152	Jalsha Movies HD	HD
		153	Star Sports Select HD 1	HD
		154	Star Sports Select HD 2	HD
		155	MAA HD	HD
33	M/s SUN TV Network Limited	156	Adithya TV	SD
		157	Chintu TV	SD
		158	Chutti TV	SD
		159	Gemini Comedy	SD
		160	Gemini Life	SD
		161	Gemini Movies	SD
		162	Gemini Music	SD
		163	Gemini News	SD
		164	Gemini TV	SD
		165	KTV	SD
		166	Kiran TV	SD
		167	Kushi TV	SD
		168	SUN Life	SD
		169	Sun Music	SD
		170	Sun News	SD
		171	Surya Music (Earlier name "Sun News English")	SD
		172	SUN TV	SD
		173	SUN TV RI	SD
		174	Surya TV	SD
		175	Udaya Comedy	SD
		176	Udaya Movies	SD
		177	Udaya Music	SD
		178	Udaya News	SD
		179	Udaya TV	SD
		180	Kochu TV	SD
		181	Sun TV HD	HD
		182	KTV HD	HD
		183	Sun Music HD	HD
		184	Gemini TV HD	HD
		185	Sun Action (Ad free channel)	SD
		186	Gemini Action (Ad free channel)	SD
		187	Surya Action (Ad free channel)	SD
		188	Suriyan TV (Ad free channel)	SD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
34	M/s Taj Television India Private Limited	189	Ten 2 (earlier name 'Ten Action')	SD
		190	Ten 1 (earlier name 'Ten Sports')	SD
		191	Ten Golf HD	HD
		192	Ten 1 HD (earlier name 'Ten HD')	HD
35	M/s Turmeric Vision Private Limited	193	Food Food TV	SD
36	M/s Turner International India Pvt Ltd	194	Cartoon Network	SD
		195	CNN International	SD
		196	HBO	SD
		197	POGO	SD
		198	Toonami (Earlier name "Boomerang")	SD
		199	WB	SD
37	M/s TV 18 Broadcast Limited	200	HBO HD (Earlier name "HBO Hits HD")	HD
		201	CNN News 18 (earlier name "CNN-IBN")	SD
		202	CNBC Bazaar	SD
		203	CNBC TV 18 Prime HD	HD
		204	CNBC Awaaz	SD
38	M/s TV Today Network Limited	205	CNBC TV 18	SD
		206	Aaj Tak	SD
		207	Delhi Aaj Tak	SD
		208	India Today (Earlier name "Headlines Today")	SD
39	M/s United Home Entertainment Pvt Limited	209	Aaj Tak Tez	SD
		210	Hungama TV	SD
40	M/s Disney Broadcasting (India) Limited	211	Disney Junior (Earlier name "UTV Comedy")	SD
		212	UTV Movies	SD
		213	Disney XD (Earlier name "UTV World Movies")	SD
		214	Bindass Play (Earlier name "UTV Stars")	SD
		215	The Disney Channel	SD
41	M/s Viacom 18 Media Private Limited	216	Colors	SD
		217	Comedy Central (HD Distribution)	HD
		218	MTV	SD
		219	NICK	SD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		220	Nick Jr / Teen Nick	SD
		221	SONIC	SD
		222	VH 1 (HD Distribution)	HD
		223	Colors Infinity HD	HD
		224	Colors Infinity	SD
		225	Colors HD	HD
		226	NICKS HD+	HD
		227	MTV Indies (HD Distribution)	HD
		228	Rishtey Cineplex	SD
		229	MTV Beats (Earlier name "X Zone")	SD
		230	Colors Kannada HD	HD
		231	Colors Marathi HD	HD
		232	Colors Bangla HD	HD
		233	Colors Super	SD
		234	Colors Bangla (Earlier name "ETV Bangla")	SD
		235	Colors Gujarati (Earlier name "ETV Gujarati")	SD
		236	Colors Kannada (Earlier name "ETV Kannada")	SD
		237	Colors Marathi (Earlier name "ETV Marathi")	SD
		238	Colors Oriya (Earlier name "ETV Oriya")	SD
42	M/s Vijay Television Pvt Limited	239	Vijay TV (except Tamil Nadu)	SD
		240	Vijay Super	SD
		241	Vijay HD	HD
43	M/s Zee Akaash News Private Limited	242	24 Ghanta	SD
44	M/s Zee Entertainment Enterprises Limited	243	Zee ETC Bollywood (Earlier name "Zee Bollywood")	SD
		244	Action Cinema	SD
		245	Zee Bangla Cinema	SD
		246	Zee Café HD	HD
		247	Zee Café	SD
		248	Zee Cinema	SD
		249	Classic Cinema	SD
		250	Zee Salaam	SD
		251	Zee Studio	SD
		252	Zee Talkies	SD
		253	Zee TV	SD
		254	Zing	SD
		255	Zindagi	SD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		256	& Picture	SD
		257	Zee Q	SD
		258	Zee Bangla	SD
		259	Zee Marathi	SD
		260	Living Foodz (earlier name "Zee Khana Khazana")	SD
		261	Zee TV HD	HD
		262	Zee Cinema HD	HD
		263	Zee Studio HD	HD
		264	& TV	SD
		265	& TV HD	HD
		266	Zee Kannada	SD
		267	Zee Telugu	SD
		268	& Pictures HD	HD
		269	Ten 3	SD
		270	Zee Cinemalu	SD
		271	Zee Yuva	SD
45	M/s Zee Media Corporation Limited	272	Zee 24 Taas	SD
		273	Zee Kalinga (Earlier name "Zee 24 Ghantalu)	SD
		274	Zee Business	SD
		275	Zee Punjab Haryana Himachal (Earlier name "Zee Punjabi")	SD
		276	Zee Madhya Pradesh Chattisgarh	SD
		277	WION	SD
		278	Zee Rajasthan News (Earliner name "Zee Marudhara" and "Zee Rajasthan Plus")	SD
46	M/s Zoom Entertainment Network Limited	279	Movies Now	SD
47	M/s AXN Networks India Private Limited	280	SONY ESPN (Earlier name "SONY KIX")	SD
		281	AXN HD	HD

Annexure 5.2 : List of pay DTH Operators

- 1. M/s. Tata Sky Ltd.,**
3rd Floor, C-1, Wadia International Centre (Bombay Dyeing)
Pandurang Budhkar Marg, Worli,
Mumbai – 400 025
Tel: 022-6613 3000
Fax-022-6613 3030
Website : www.tatasky.com

- 2. M/s Dish TV India Ltd.**
FC-19, Sector-16A, Film City,
Noida-201301
Tel: 91-120-2467005 / 2467000
Fax: 91-120-4357082
Website : www.dishtv.in

- 3. SUN Direct TV(P) Ltd.**
Murasoli Maran Towers, 73, MRC Nagar,
Main Road, MRC Nagar, Chennai – 28
PH: 044-44676767, Fax No 044-40679191
Website : www.sundirect.in

- 4. Bharti Telemedia Ltd.**
Airtel Centre, Plot No 16,
Udyog Vihar Phase IV,
Gurgaon – 122 015
Ph: 0124-4222222
Fax : 0124-4248063
Website : www.airtel.in

- 5. Reliance Big TV Pvt. Ltd.**
3rd Floor, A-Wing,
Reliance Centre, Maharaja Ranjit Singh Marg,
New Delhi – 110 002
Ph: 011-30331012
Fax : 011-30331781
Website : www.rcom.co.in

- 6. M/s Videocon d2h Limited
(Formerly Bharat Business Channel Limited)**
Plot No 1D, Udyog Vihar Industrial Area,
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Annexure 5.3: List of 84 existing cities with operational FM Radio Channels in India

S.No.	Name of City	Category	Number of operational channels
1	Agra	B	3
2	Ahmedabad	A	6
3	Ahmednagar	C	2
4	Aizwal	D	1
5	Ajmer	C	2
6	Akola	C	1
7	Aligarh	C	2
8	Allahabad	B	3
9	Amritsar	B	3
10	Asansol	B	2
11	Aurangabad	C	2
12	Bareilly	C	3
13	Bengaluru	A	7
14	Bhopal	B	4
15	Bhubaneshwar	C	3
16	Bikaner	C	1
17	Bilaspur	C	1
18	Chandigarh	C	3
19	Chennai	A+	8
20	Kochi	B	3
21	Coimbatore	B	4
22	Delhi	A+	9
23	Dhule	C	1
24	Gangtok	D	3
25	Gorakhpur	C	2
26	Gulbarga	C	1
27	Guwahati	C	3
28	Gwalior	C	4
29	Hissar	D	4
30	Hyderabad	A	6
31	Indore	B	4
32	Jabalpur	B	4
33	Jaipur	A	5
34	Jalandhar	C	4
35	Jalgaon	C	2
36	Jammu	C	1
37	Jamshedpur	B	3
38	Jhansi	C	1
39	Jodhpur	C	3
40	Kannur	C	4
41	Kanpur	A	4
42	Karnal	D	3

Annexure- 5.3 (Contd.)

S.No.	Name of City	Category	Number of operational channels
43	Kolhapur	C	2
44	Kolkata	A+	8
45	Kota	C	3
46	Kozhikode	C	2
47	Lucknow	A	4
48	Madurai	B	3
49	Mangalore	C	3
50	Mumbai	A+	9
51	Muzaffarpur	C	1
52	Mysore	C	2
53	Nagpur	A	4
54	Nanded	C	1
55	Nasik	C	2
56	Panaji	D	3
57	Patiala	C	3
58	Patna	B	1
59	Puducherry	C	3
60	Pune	A	4
61	Raipur	C	4
62	Rajahmundry	C	1
63	Rajkot	B	4
64	Ranchi	C	4
65	Rourkela	C	2
66	Sangli	C	2
67	Shillong	D	1
68	Shimla	D	3
69	Sholapur	C	2
70	Siliguri	C	3
71	Srinagar	C	1
72	Surat	A	5
73	Thiruvananthapuram	C	4
74	Thrissur	C	4
75	Tiruchy	C	2
76	Tirunelveli	C	2
77	Tirupati	C	2
78	Tuticorin	C	2
79	Udaipur	C	3
80	Vadodra	B	4
81	Varanasi	B	3
82	Vijayawada	B	2
83	Vishakapatnam	B	4
84	Warrangal	C	1
Total			260

Source: As reported to TRAI

Index of Tables & Charts

Tables

Table 1.1: Subscriber Base & Teledensity - Rural & Urban.....	2
Table 1.2: Service Area wise Access (Wireless+Wireline) Subscribers	5
Table 1.3: Service Area wise Rural-Urban Subscribers	6
Table 1.4: Service Area wise Teledensity	7
Table 1.5: Growth/Decline in Subscriber base.....	9
Table 1.6: Market Share of the operators in the total rural subscriber base.....	10
Table 1.7: List of Cellular Mobile (GSM & CDMA) Service Providers currently providing service... ..	11
Table 1.8: Wireless Subscriber Base & Teledensity - Rural & Urban.....	12
Table 1.9: Growth in Wireless Subscribers	13
Table 1.10: Service Area wise Wireless Subscribers.....	14
Table 1.11: Service Area wise Wireless Rural-Urban Subscribers	14
Table 1.12: Service Area wise Wireless Teledensity.....	16
Table 1.13: Rural Wireless Subscribers and Market Share	17
Table 1.14: Group-wise Market Share (in terms of subscription) within GSM Service	18
Table 1.15: Market Share (in terms of subscription) within CDMA Service.....	19
Table 1.16: Service Providers providing Wireline service	20
Table 1.17: Wireline Subscriber Base & Teledensity - Rural & Urban	21
Table 1.18: Service Provider wise Subscribers (Rural & Urban) & Share of Rural Subscription	21
Table 1.19: Service Provider wise growth in Subscribers	22
Table 1.20: Service Area wise Wireline Subscribers	22
Table 1.21: Service Area wise Wireline Rural-Urban	22
Table 1.22: Service Area wise Wireline Teledensity	25
Table 1.23: Rate of change & Market share of PCOs.....	26
Table 1.24: Trend of Internet subscriber base	28
Table 1.25: Break up Urban-Rural internet subscribers.....	30
Table 1.26: Internet Subscriber Base & Market share of top 10 SPs	31
Table 1.27: Service area wise number of internet subscribers per 100 population	34
Table 1.28: PMRTS Subscriber base - Service Provider wise	39
Table 1.29: VSAT Service Providers currently providing service & their subscriber base	40
Table 2.1: Key Indicators - GSM Service.....	43
Table 2.2: Monthly ARPU - GSM Service	44
Table 2.3: Composition of ARPU (%) - GSM Service	45
Table 2.4: MOU per subscriber per month - GSM Service.....	46
Table 2.5: Outgoing SMS per subscriber per month - GSM Service.....	46
Table 2.6: %Break-up of Outgoing minutes from Home Service Area (HSA)- GSM Service	46
Table 2.7: Average subscriber outgo per outgoing minute from HSA - GSM Service	49
Table 2.8: Trends of Key Parameters - GSM Service	50
Table 2.9: Key Indicators - CDMA Full Mobility Service.....	51
Table 2.10: Monthly ARPU - CDMA Full Mobility Service.....	52
Table 2.11: Composition of ARPU (%) - CDMA Full Mobility Service.....	53
Table 2.12: MOU per subscriber per month - CDMA Full Mobility Service	54
Table 2.13: Outgoing SMS per subscriber per month - CDMA Service	55
Table 2.14: %Break-up of Outgoing minutes from Home Service Area (HSA) - CDMA Full Mobility Service ..	55
Table 2.15: Average subscriber outgo per outgoing minute from HAS - CDMA Full Mobility Service.....	57
Table 2.16: Trends of Key Parameters - CDMA Full Mobility Service.....	57
Table 3.1: Gross Revenue (GR), Adjusted Gross Revenue (AGR), License Fee (LF) & Spectrum Charges	59
Table 3.2: Service-wise Gross Revenue, Adjusted Gross Revenue, License Fee and Spectrum Charges	59
Table 3.3: Access Services - Service Provider wise Adjusted Gross Revenue.....	61
Table 3.4: Category-wise share in Access Services Adjusted Gross Revenue (AGR)	61
Table 4.1: QoS Summary - 2G Wireless Service.....	63
Table 4.2: Parameter wise Analysis of Non-compliance of QoS Benchmarks for 2G Wireless Service Providers.....	66
Table 4.3 : QoS Summary - 3G Wireless Service	69
Table 4.4: Parameter wise Analysis of Non-compliance of QoS Benchmarks for 3G Wireless Service Providers.....	70
Table 4.5: QoS Summary - Wireline Service	71

Table 4.6: Parameter wise Analysis of Non-compliance of QoS Benchmarks for Wireline Service Providers ..	72
Table 4.7: Performance of Broadband Service Providers against identified parameters.....	74
Table 4.8: Parameter-wise Analysis of non-compliance of QoS benchmarks for Broadband Service Providers	76
Table 5.1: Key Parameters - Broadcasting & Cable Services	78
Table 5.2: Migration Schedule – Digital Addressable Cable TV System.....	80
Table 5.3: No. of applications received/ letter of Intend issued/ Licenses issued in respect of Community Radio Stations.....	84

Charts

Chart 1.1: Trends in Telephone Subscribers and Teledensity in India	2
Chart 1.2: Market Share - Rural & Urban	3
Chart 1.3: Composition of Access subscription - Wireline & Wireless	4
Chart 1.4: Composition of Telephone Subscribers at the end of the quarter	4
Chart 1.5: Net Addition/decline in Telephone Subscription	7
Chart 1.6: Wireless Subscriber Base and Teledensity	12
Chart 1.7: Wireless Market Share - Rural & Urban	13
Chart 1.8: Wireless Subscription: GSM vs CDMA.....	17
Chart 1.9: Wireline Subscriber Base and Teledensity	21
Chart 1.10: Composition of Wireline Subscribers - Rural & Urban	22
Chart 1.11: Number of PCOs	26
Chart 1.12: Growth in VPTs.....	27
Chart 1.13: Composition of Internet subscription	29
Chart 1.14 : Composition of Broadband & Narrowband subscription	29
Chart 1.15: Subscriber base of top ten ISPs.....	32
Chart 1.16: Composition of Wired Internet Subscribers	32
Chart 1.17: Composition of Wireless Internet Subscribers.....	33
Chart 1.18: Technology Trend for Wireless Internet Access	33
Chart 1.19: Technology Trend for Wired Internet Access	34
Chart 1.20: Trend in MoU for Internet Telephony.....	36
Chart 1.21: Composition of Broadband Subscription – Technology wise	37
Chart 1.22: Composition of Narrowband Subscription – Technology wise	38
Chart 1.23: Number of PMRTS subscribers & Rate of Growth (%).....	39
Chart 1.24: Number of VSAT Subscribers & Rate of Growth (%)	41
Chart 2.1: Break-up of Outgoing minutes from Home Service Area (HSA) – GSM Service	43
Chart 2.2: Proportion of prepaid subscribers - GSM Service	44
Chart 2.3: Minutes of Usage by Outroamers as a % of Total Minutes of Usage - GSM Service	47
Chart 2.4: Outgoing SMS Usage by Outroamers as a % of Total Outgoing SMS Usage – GSM Service	47
Chart 2.5: % Subscribers who availed roaming services during the quarter – GSM Service	48
Chart 2.6: % Break-up of minutes of usage of outroamers (usage from outside the Home Service Area) – GSM Service.....	49
Chart 2.7: % Break-up of outgoing minutes from Home Service Area (HSA) – CDMA Full Mobility Service.....	51
Chart 2.8: Proportion of prepaid subscribers - CDMA Full Mobility Service	52
Chart 2.9: Minutes of Usage by Outroamers as a % of Total Minutes of Usage - GSM Service.....	55
Chart 2.10: Percentage of subscribers who availed roaming service during the quarter – CDMA Full Mobility Service.....	56
Chart 2.11: Percentage break-up of minutes of usage of outroamers (usage from outside the Home Service Area) – CDMA Full Mobility Service	56
Chart 3.1: Composition of Gross Revenue	60
Chart 3.2: Trend in ARPU per month for Access Services	60
Chart 5.1 : Quarterly growth in number of Satellite TV Channels (FTA & Pay) registered with Ministry of IB...78	78
Chart 5.2 : Quarterly growth in number of satellite Pay TV Channels in India	80
Chart 5.3 : Quarterly growth in Net Active Subscriber Base (in million) of Pay DTH Sector.....	82
Chart 5.4 : Comparative position in FM Radio Revenue.....	83
Chart 5.5 : Quarterly growth in number of Community Radio Stations.....	83