



Telecom Regulatory Authority of India

The Indian Telecom Services Performance Indicators July - September, 2017

New Delhi, India
28th December, 2017

Mahanagar Doorsanchar Bhawan,
Jawahar Lal Nehru Marg, New Delhi-110002
Tel: +91-11- 23221856, Fax: +91-11- 23236650
Website: www.trai.gov.in

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Snapshot

(Data As on Q.E. 30th September, 2017)	
Telecom Subscribers (Wireless + Wireline)	
Total Subscribers	1,206.71 Million
% change over the previous quarter	-0.34%
Urban Subscribers	704.89 Million
Rural Subscribers	501.82 Million
Market share of Private Operators	89.59%
Market share of PSU Operators	10.41%
Teledensity	93.40
Urban Teledensity	173.15
Rural Teledensity	56.71
Wireless Subscribers	
Total Wireless Subscribers	1,183.04 Million
% change over the previous quarter	-0.32%
Urban Subscribers	684.77 Million
Rural Subscribers	498.28 Million
GSM Subscribers	1,173.63 Million
CDMA Subscribers	9.41 Million
Market share of Private Operators	90.75%
Market share of PSU Operators	9.25%
Teledensity	91.56
Urban Teledensity	168.20
Rural Teledensity	56.31
Total Wireless Data Usage during the quarter	5,430,046 TB
Wireline Subscribers	
Total Wireline Subscribers	23.67 Million
% change over the previous quarter	-1.37%
Urban Subscribers	20.12 Million
Rural Subscribers	3.55 Million
Market share of Private Operators	31.56%
Market share of PSU Operators	68.44%
Teledensity	1.83
Urban Teledensity	4.94
Rural Teledensity	0.40
No. of Village Public Telephones (VPT)	2,07,292
No. of Public Call Office (PCO)	4,13,275

Telecom Financial Data	
Gross Revenue (GR) during the quarter	₹ 66,362 Crore
% change in GR over the previous quarter	2.27%
Adjusted Gross Revenue (AGR) during the quarter	₹ 41,669 Crore
% change in AGR over the previous quarter	4.75%
Share of Public sector undertakings in Access AGR	8.87%
Monthly Average Revenue Per User (ARPU) for Access Services	₹ 88.09
Internet/Broadband Subscribers	
Total Internet Subscribers	429.23 Million
% change over previous quarter	-0.46%
Narrowband subscribers	104.34 Million
Broadband subscribers	324.89 Million
Wired Internet Subscribers	21.35 Million
Wireless Internet Subscribers	407.88 Million
Urban Internet Subscribers	299.83 Million
Rural Internet Subscribers	129.41 Million
Total Internet Subscribers per 100 population	33.22
Urban Internet Subscribers per 100 population	73.65
Rural Internet Subscribers per 100 population	14.62
Broadcasting & Cable Services	
Number of private satellite TV channels permitted by the Ministry of I&B for uplinking only/downlinking /uplinking	877
Number of Pay TV Channels	300
Number of private FM Radio Stations (excluding All India Radio)	322
Number of Pay Subscribers Active with Private DTH Operators	66.09 Million
Number of Community Radio Stations licenced (GOPA signed)	280
Number of Operational Community Radio Stations	210
Number of pay DTH Operators	6
Revenue & Usage Parameters	
Monthly ARPU GSM Full Mobility Service including LTE	₹ 84
Monthly ARPU CDMA Full Mobility Service	₹ 125
Minutes of Usage (MOU) per subscriber per month - GSM Full Mobility Service including LTE	437 Minutes
Minutes of Usage (MOU) per subscriber per month - CDMA Full Mobility Service	206 Minutes
Total Outgoing Minutes of Usage for Internet Telephony	283 Million
Data Usage of Mobile Users	
Average Data Usage per subscriber per month – GSM (2G+3G+4G)	1,610 MB
Average Data Usage per subscriber per month - CDMA	454 MB
Average Data Usage per subscriber per month – Total(GSM+CDMA)	1,600 MB
Average outgo per GB data for GSM including LTE (2G+3G+4G)	₹ 21.22
Average outgo per GB data for CDMA	₹ 114.50

Executive Summary

1. The number of telephone subscribers in India declined from 1,210.84 million at the end of Jun-17 to 1,206.71 million at the end of Sep-17, registering a growth of -0.34% over the previous quarter. However, this reflects year-on-year (Y-O-Y) positive growth of 12.33% over the same quarter of last year. The overall Teledensity in India declined from 93.98 as on QE Jun-17 to 93.40 as on QE Sep-17.

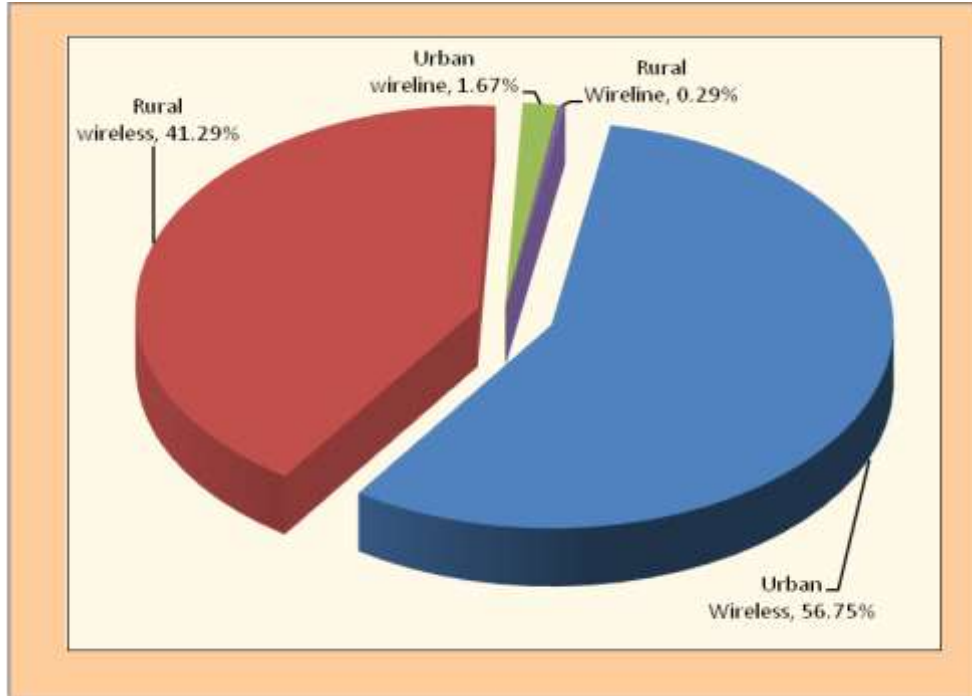
Trends in Telephone subscribers and Teledensity in India



2. Subscription in Urban Areas increased from 700.96 million at the end of Jun-17 to 704.89 million at the end of Sep-17, and Urban Teledensity also increased from 172.98 to 173.15 during the same period. However, Rural subscription declined from 509.88 million to 501.82 million and Rural Teledensity also declined from 57.73 to 56.71 during the same period.

3. Out of the total subscription, the share of Rural subscription declined from 42.11% at the end of Jun-17 to 41.59% at the end of Sep-17.

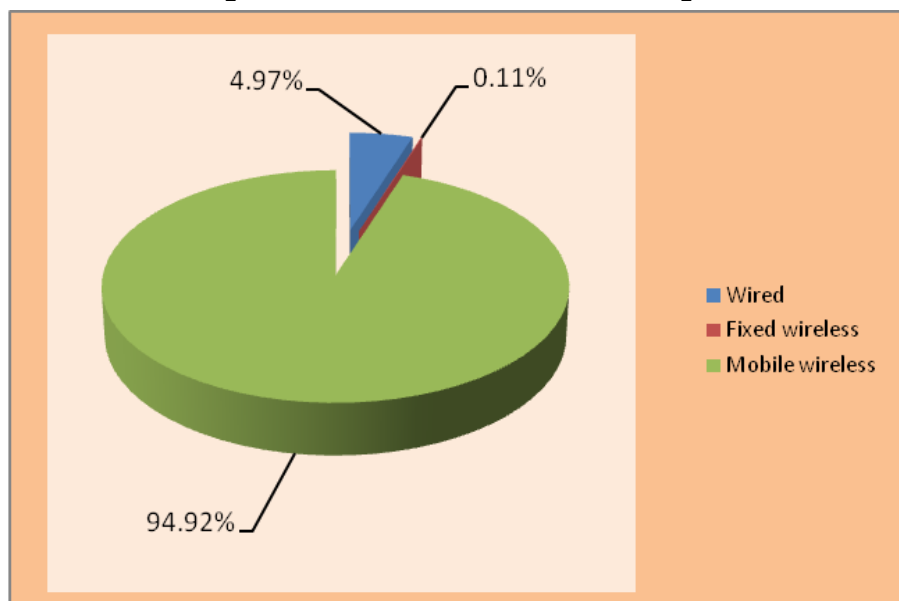
Composition of Telephone Subscribers



4. With a net decline of 3.80 million subscribers during the quarter, total wireless (GSM+CDMA) subscriber base declined from 1,186.84 million at the end of Jun-17 to 1,183.04 million at the end of Sep-17, registering a quarterly growth rate of -0.32% over the previous quarter. However, the year-on-year (Y-O-Y) growth rate of wireless subscribers for Sep-17 is 12.70%.
5. Wireless Tele-density declined from 92.12 at the end of Jun-17 to 91.56 at the end of Sep-17.
6. Wireline subscriber declined from 24.00 million at the end of Jun-17 to 23.67 million at the end of Sep-17 with quarterly decline rate of 1.37%. The year-on-year (Y-O-Y) decline rate in wireline subscribers for Sep-17 is 3.36%.

7. Wireline Teledensity declined from 1.86 at the end of Jun-17 to 1.83 at the end of Sep-17.
8. Total number of Internet subscribers declined from 431.21 million at the end of Jun-17 to 429.23 million at the end of Sep-17, registering a quarterly growth rate of -0.46%. Out of 429.23 million, Wired Internet subscribers are 21.35 million and Wireless Internet subscribers are 407.88 million.

Composition of internet subscription

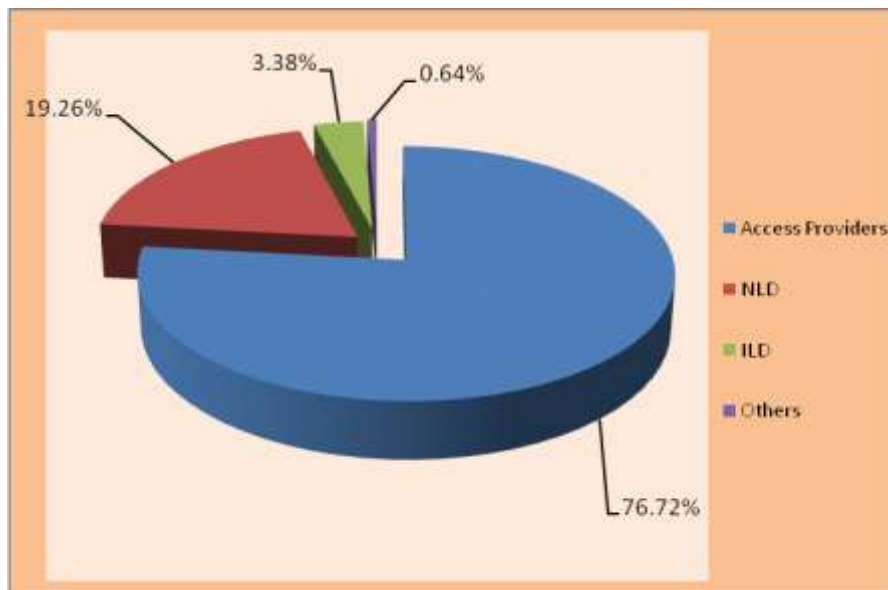


9. The Internet subscriber base is comprised of Broadband Internet subscriber base of 324.89 million and Narrowband Internet subscriber base of 104.34 million.
10. The broadband Internet subscriber base grew by 8.00% from 300.84 million at the end of Jun-17 to 324.89 million at the end of Sep-17. On the other hand, the narrowband Internet subscriber base declined by 19.97% from 130.38 million at the end of Jun-17 to 104.34 million at the end of Sep-17.

11. Monthly Average Revenue per User (ARPU) for GSM service (including LTE) increased by 5.42%, from ₹80 in QE Jun-17 to ₹84 in QE Sep-17. However, monthly ARPU for GSM service (including LTE) declined by 30.65% on Y-O-Y in this quarter.
12. Prepaid ARPU for GSM service per month increased from ₹65 in QE Jun-17 to ₹71 in QE Sep-17, however Postpaid ARPU per month also declined from ₹389 in QE Jun-17 to ₹361 in QE Sep-17.
13. On an all India average, the overall MOU per subscriber per month for GSM service increased by 2.10% from 428 for QE Jun-17 to 437 in QE Sep-17.
14. Prepaid MOU per subscriber for GSM service increased from 409 in QE Jun-17 to 419 in QE Sep-17, however postpaid MOU declined from 832 in QE Jun-17 to 818 in QE Sep-17.
15. Monthly ARPU for CDMA full mobility service increased by 0.61%, from ₹124 in QE Jun-17 to ₹125 in QE Sep-17. However, on Y-O-Y basis Monthly ARPU for CDMA full mobility service declined by 18.70% in this quarter.
16. The total MOU per subscriber per month for CDMA full mobility service declined by 16.70%, from 246 in QE Jun-17 to 206 in QE Sep-17. The outgoing MOUs declined from 105 in QE Jun-17 to 83 in QE Sep-17, and incoming MOUs also declined from 142 in QE Jun-17 to 123 in QE Sep-17.
17. Gross Revenue (GR) and Adjusted Gross Revenue (AGR) of Telecom Service Sector for the QE Sep-17 has been ₹66,362 Crore and ₹41,669 Crore respectively. GR increased by 2.27% and AGR declined by 4.75% in QE Sep-17 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 -7.03% and -17.55% respectively.

19. Pass-through charges declined from ₹25,112 Crore in Q.E. Jun-17 to ₹24,693 in Q.E. Sep-17. The quarterly and the year-on-year (Y-O-Y) growth rates of pass-through charges for QE Sep-17 are -1.67% and 18.49% respectively.
20. The License Fee declined from ₹3,261 Crore for the QE Jun-17 to ₹3,249 Crore for the QE Sep-17. The quarterly and the year-on-year (Y-O-Y) growth rates of license fee are -0.35% and -20.57% respectively in this quarter.
21. Access services contributed 76.72% of the total Adjusted Gross Revenue of telecom services. In Access services, Gross Revenue (GR), Adjusted Gross Revenue(AGR) and Pass Through Charges increased by 5.05%, 6.27% and 2.74% respectively however, License Fee and Spectrum Usage Charges(SUC) declined by 0.52% and 4.01% respectively in QE Sep-17.
22. Monthly Average Revenue per User (ARPU) for Access Services based on AGR increased from ₹83.41 in QE Jun-17 to ₹88.09 in QE Sep-17.

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"> • Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) • Metering and billing credibility- pre-paid • Resolution of billing/ charging/ validity complaints (100% within 6 weeks) • Period of applying credit/ waiver/adjustment to customer's account from the date of resolution of complaints 	<ul style="list-style-type: none"> • Worst affected BTSs due to downtime • Call Set-up Success Rate (within licensee's own network) • SDCCH/Paging Chl. Congestion • Worst affected cells having more than 3% TCH drop (call drop) rate • Metering and billing credibility- post paid • Accessibility of call centre/customer care • %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

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	Parameters showing deterioration in QoS
<ul style="list-style-type: none"> • Worst affected cells having more than 3% TCH drop (call drop) and Circuit Switched Voice Drop Rate:-CBBH 	<ul style="list-style-type: none"> • SDCCH/Paging Channel and RCC Congestion (%age)

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 deterioration in QoS
<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 to Repair (MTTR)• %age of calls answered by the operators (voice to voice) within 90 seconds.

26. A total number of 877 private satellite TV channels have been permitted by the Ministry of Information and Broadcasting (MIB) for uplinking only/downlinking/uplinking, as on 30th September, 2017.
27. During the quarter ending Sep-17, there were 300 pay channels as reported by 48 broadcasters as compared to 293 pay channels reported in the previous quarter. 300 pay channels include 215 SD pay TV channels and 85 HD Pay TV channels. During the quarter ending Sep-17, as per the reporting, eight new pay channels were commenced. No pay channel was converted from Pay to FTA or vice versa. Further, one pay channel namely “Da Vinci Learning” was reported to be discontinued.
28. Since its introduction in the year 2003, Indian DTH service has displayed a phenomenal growth. DTH has attained net pay active subscriber base of around 66.99 million. This is besides the viewership of the free DTH services of Doordarshan. As on QE Sep-17, there are 6 pay DTH service providers in the country.

29. Apart from the radio Stations operated by All India Radio, Prasar Bharati – a public broadcaster, as on 30th September, 2017, there are 322 operational private FM Radio stations and 86 existing cities with operational 34 FM Radio Operators as compared to 310 private FM Radio Stations 86 cities with operational 33 FM Radio Operators in the previous quarter.
30. According to the reporting of advertisement revenue done by the 33 FM Radio Service Providers, it has emerged that during the quarter ending Sep-17, twelve (12) new private FM Radio Stations have become operational.
31. As per data received from MIB, as on 30th September, 2017, out of the 280 licenses issued so far, 210 community radio stations are already operational.

Trends at a Glance

A. Access Service (Wireline + Wireless)

	QE Sep 2016	QE Dec 2016	QE Mar 2017	QE Jun 2017	QE Sep 2017	%age change over Sep- 2016	%age change over Dec- 2016	%age change over Mar- 2017	%age change over Jun- 2017
						(12 months)	(9 months)	(6 months)	(3 months)
1) Subscriber Base (in million)									
Wireline	24.49	24.40	24.40	24.00	23.67	-3.36%	-3.01%	-2.99%	-1.37%
Wireless	1049.74	1127.37	1170.18	1186.84	1183.04	12.70%	4.94%	1.10%	-0.32%
Total	1074.24	1151.78	1194.58	1210.84	1206.71	12.33%	4.77%	1.02%	-0.34%
Rural	449.86	468.64	501.61	509.88	501.82	11.55%	7.08%	0.04%	-1.58%
Urban	624.38	683.14	692.97	700.96	704.89	12.90%	3.18%	1.72%	0.56%
2) Teledensity									
Wireline	1.92	1.90	1.90	1.86	1.83	-4.45%	-3.82%	-3.53%	-1.64%
Wireless	82.17	88.00	91.08	92.12	91.56	11.43%	4.06%	0.53%	-0.60%
Total	84.09	89.90	92.98	93.98	93.40	11.07%	3.89%	0.45%	-0.62%
Rural	51.24	53.27	56.91	57.73	56.71	10.66%	6.45%	-0.35%	-1.77%
Urban	156.24	170.15	171.80	172.98	173.15	10.82%	1.76%	0.78%	0.10%
3) Service Provider wise Subscribers Base (in Million) (wireless+wireline)									
Bharti	263.74	269.68	277.51	284.53	285.95	8.42%	6.03%	3.04%	0.50%
Vodafone	200.84	204.82	209.20	212.09	207.63	3.38%	1.37%	-0.75%	-2.11%
Idea	178.82	190.52	195.37	196.28	190.16	6.34%	-0.19%	-2.67%	-3.12%
Reliance Jio	15.98	72.16	108.68	123.36	138.62	767.45%	92.10%	27.54%	12.36%
BSNL	107.66	110.53	114.68	117.37	118.61	10.17%	7.31%	3.43%	1.06%
Aircel	90.14	90.88	90.90	90.32	88.82	-1.46%	-2.26%	-2.28%	-1.66%
Reliance	88.34	87.72	84.68	82.50	73.31	-17.01%	-16.42%	-13.42%	-11.14%
Tata	58.79	54.71	50.74	45.54	46.76	-20.45%	-14.52%	-7.85%	2.69%
Telenor	52.86	54.47	50.49	47.34	46.01	-12.95%	-15.53%	-8.87%	-2.80%
MTNL	7.07	7.10	7.09	7.06	7.01	-0.88%	-1.31%	-1.11%	-0.65%
Sistema	6.78	5.94	4.97	4.19	3.57	-47.31%	-39.85%	-28.13%	-14.70%
Quadrant	3.24	3.26	0.26	0.27	0.26	-91.86%	-91.93%	0.16%	-1.22%
Total	1074.24	1151.78	1194.58	1210.84	1206.71	12.33%	4.77%	1.02%	-0.34%

B. Internet Services

	QE Sep 2016	QE Dec 2016	QE Mar 2017	QE Jun 2017	QE Sep 2017	%age change over Sep-2016	%age change over Dec-2016	%age change over Mar-2017	%age change over Jun-2017
						(12 months)	(9 months)	(6 months)	(3 months)
1) Subscriber's Base (in million)									
A. Wired Internet Subscribers	21.26	21.51	21.58	21.67	21.35	0.45%	-0.70%	-1.03%	-1.44%
B. Wireless Internet Subscribers	346.22	370.00	400.62	409.55	407.88	17.81%	10.24%	1.81%	-0.41%
i. Mobile Wireless (Mobile & Dongle)	345.60	369.39	400.04	409.01	407.41	17.88%	10.29%	1.84%	-0.39%
ii. Fixed Wireless (Wi-Fi, Wi-Max, Point-to-Point Radio & VSAT)	0.62	0.61	0.58	0.54	0.47	-24.37%	-22.62%	-18.95%	-12.35%
Total Internet Subscribers	367.48	391.50	422.19	431.21	429.23	16.80%	9.64%	1.67%	-0.46%
2) No. of Internet Subs per 100 Population	28.77	30.56	32.86	33.47	33.22	15.49%	8.72%	1.10%	-0.74%

C. Usage and Revenue for Full Mobility Services

1. Traffic (MOU) (minutes of use/subscriber/month)									
i) GSM	366	360	405	428	437	19.42%	21.35%	7.76%	1.93%
ii) CDMA	269	255	250	246	206	-23.47%	-19.45%	-17.64%	-16.49%
2) ARPU (₹/sub/ month)									
i) GSM	120.98	103.92	82.68	79.58	83.89	-30.65%	-19.27%	1.47%	5.42%
ii) CDMA	154.05	141.42	131.34	124.49	125.24	-18.70%	-11.44%	-4.64%	0.61%

D. Telecom Financial Data

	QE Sep 2016	QE Dec 2016	QE Mar 2017	QE Jun 2017	QE Sep 2017	%age change over Sep-2016	%age change over Dec-2016	%age change over Mar-2017	%age change over Jun-2017
						(12 months)	(9 months)	(6 months)	(3 months)
1. Telecom Sector									
i) Gross Revenue (₹ in Crores)	71378.69	66532.37	63315.18	64889.47	66361.70	-7.03%	-0.26%	4.81%	2.27%
ii) Adjusted Gross Revenue (₹ in Crores)	50539.20	45905.34	40831.33	39777.55	41668.84	-17.55%	-9.23%	2.05%	4.75%
2. Access Services									
Adjusted Gross Revenue (₹ in Crores)	41681.33	37283.71	31594.91	30082.33	31968.03	-23.30%	-14.26%	1.18%	6.27%
ARPU per month (AGR/ Average subscribers/3)	131.10	111.63	89.34	83.41	88.09	-32.81%	-21.09%	-1.40%	5.61%

Introduction

This Report presents the Key Parameters and growth trends for the Telecom Services in India for the quarter ending September, 2017. 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 under the link <http://www.trai.gov.in/release-publication/reports/performance-indicators-reports>). Any suggestion or any clarification pertaining to this report, Pr. Advisor (F&EA), TRAI may be contacted on Tel. +91-11-23221856, Fax. +91-11-23235249 and e-mail: skmishra.trai@nic.in .

Chapter 1 :

Subscription Data

-
- 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 declined from 1,210.84 million at the end of Jun-17 to 1,206.71 million at the end of Sep-17, registering a growth of -0.34% over the previous quarter. This reflects year-on-year (Y-O-Y) growth of 12.33% over the same quarter of last year. The overall Tele-density in India declined from 93.98 at the end of Jun-17 to 93.40 at the end of Sep-17.

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

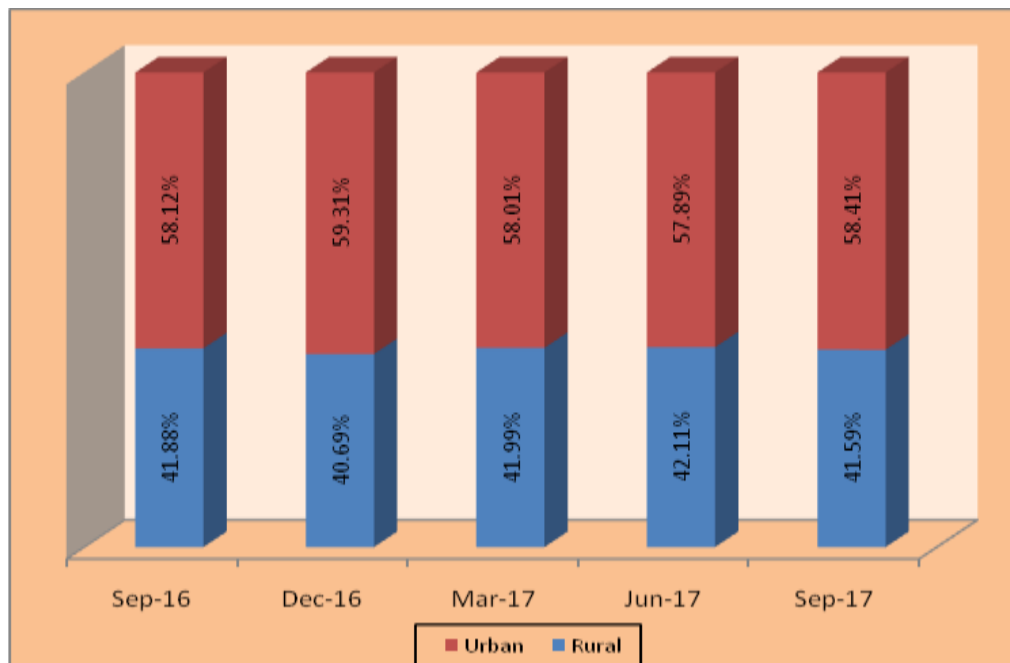


Table 1.1: Subscriber Base & Teledensity - Rural & Urban

Quarter ending	Subscriber Base (million)		Teledensity	
	Rural	Urban	Rural	Urban
Sep-16	449.86	624.38	51.24	156.24
Dec-16	468.64	683.14	53.27	170.15
Mar-17	501.61	692.97	56.91	171.80
Jun-17	509.88	700.96	57.73	172.98
Sep-17	501.82	704.89	56.71	173.15

- 1.2 Subscription in Urban Areas increased from 6700.96 million at the end of Jun-17 to 704.89 million at the end of Sep-17, and the Urban Tele-density also increased from 172.98 to 173.15 during the quarter.
- 1.3 Rural subscription declined from 509.88 million to 501.82 million and the Rural Tele-density also declined from 57.73 to 56.71 during the quarter.
- 1.4 The year-on-year (Y-O-Y) growth rate of Rural and Urban Tele-density from Sep-16 to Sep-17 is 10.66% and 10.82% respectively.

Chart 1.2: Market Share - Rural & Urban Subscribers



- 1.5 Share of rural areas in total telephone subscription has declined from 42.11% at the end of Jun-17 to 41.59% at the end of Sep-17.

Chart 1.3: Composition of Access subscription - Wireline & Wireless

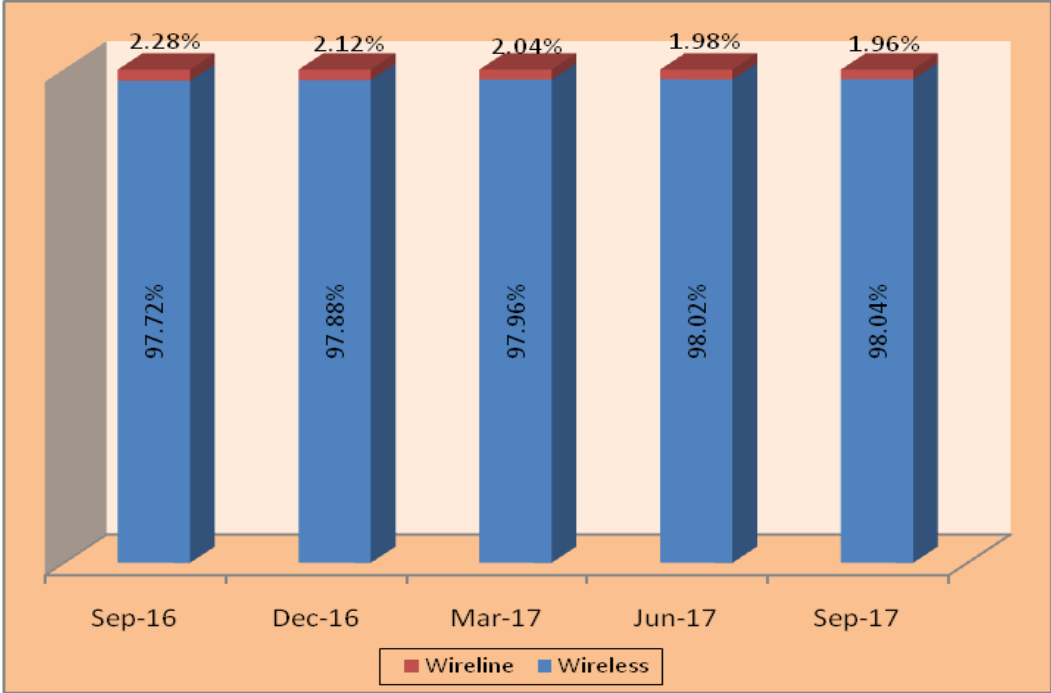


Chart 1.4: Composition of Rural-Urban Telephone Subscribers at the end of the quarter

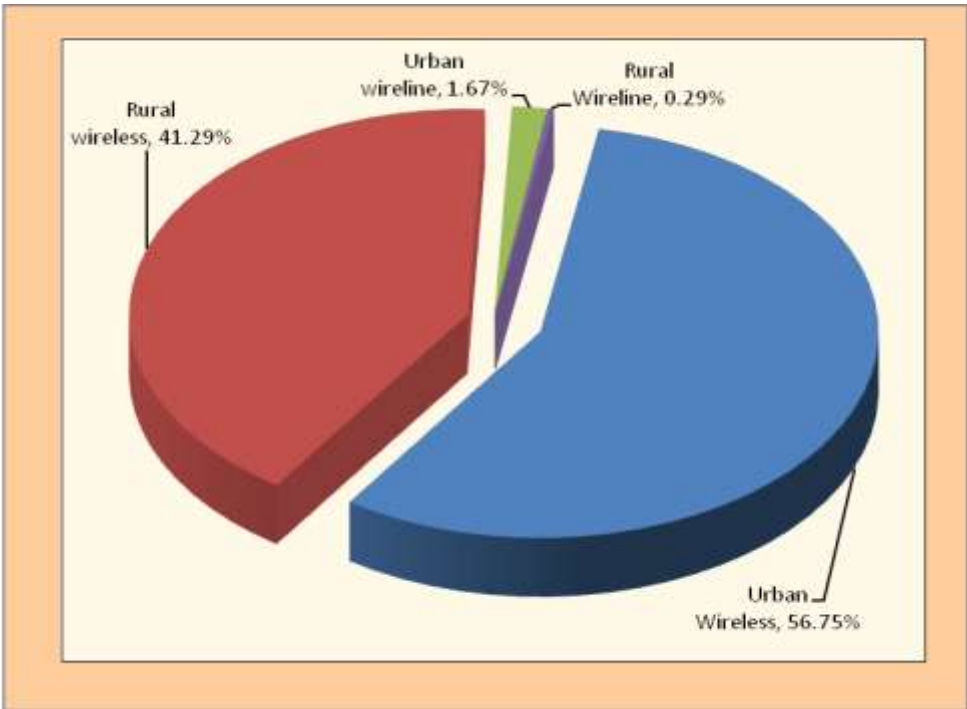


Table 1.2: Service Area wise Access (Wireless+Wireline) Subscriber base

Service Area	Subscribers (million)			
	Jun-17	Sep-17	Net Additions	Rate of Growth
Andhra Pradesh	87.34	86.86	-0.49	-0.56
Assam	22.29	22.30	0.01	0.05
Bihar	86.30	84.88	-1.42	-1.64
Delhi	57.77	58.00	0.23	0.40
Gujarat	73.62	70.36	-3.25	-4.42
Haryana	26.00	25.80	-0.20	-0.78
Himachal Pradesh	10.79	10.95	0.16	1.48
Jammu & Kashmir	12.48	12.69	0.21	1.68
Karnataka	71.89	72.75	0.86	1.20
Kerala	41.90	43.28	1.37	3.28
Madhya Pradesh	71.93	72.48	0.55	0.77
Maharashtra	96.94	96.42	-0.52	-0.54
Mumbai	39.81	40.50	0.69	1.72
North East	12.89	13.02	0.13	0.97
Orissa	35.00	34.74	-0.27	-0.76
Punjab	38.05	38.28	0.23	0.59
Rajasthan	68.69	67.48	-1.21	-1.75
T.N. (incl. Chennai)	92.74	93.29	0.55	0.59
U.P.(E)	106.94	106.17	-0.77	-0.72
U.P.(W)	67.95	66.92	-1.02	-1.51
Kolkata	30.33	30.58	0.26	0.85
West Bengal	59.21	58.98	-0.23	-0.38
All India	1,210.84	1,206.71	-4.13	-0.34

1.6 Kerala service areas showed highest growth rate of 3.28% followed by Mumbai with 1.72% in their subscriber base during the quarter ending Sep-17. Gujarat service area has recorded maximum decline rate of 4.42% during the same period.

Table 1.3: Service Area wise Rural-Urban Subscribers – Sep-17

Service Area	Subscribers (million)			
	Total	Rural	Urban	% of Rural Subscribers
Andhra Pradesh	86.86	38.46	48.40	44.28
Assam	22.30	13.93	8.38	62.45
Bihar	84.88	48.84	36.04	57.54
Delhi	58.00	-	58.00	-
Gujarat	70.36	26.59	43.77	37.79
Haryana	25.80	10.98	14.82	42.56
Himachal Pradesh	10.95	7.39	3.55	67.52
Jammu & Kashmir	12.69	6.15	6.53	48.50
Karnataka	72.75	22.56	50.19	31.02
Kerala	43.28	19.64	23.63	45.39
Madhya Pradesh	72.48	33.08	39.40	45.64
Maharashtra	96.42	43.05	53.37	44.65
Mumbai	40.50	1.55	38.95	3.82
North East	13.02	6.66	6.35	51.18
Orissa	34.74	20.55	14.18	59.17
Punjab	38.28	13.90	24.38	36.31
Rajasthan	67.48	33.52	33.96	49.68
T.N. (incl. Chennai)	93.29	26.57	66.71	28.49
U.P.(E)	106.17	54.61	51.56	51.43
U.P.(W)	66.92	28.68	38.24	42.86
Kolkata	30.58	2.80	27.78	9.16
West Bengal	58.98	39.71	19.27	67.32
All India	1,206.71	501.82	704.89	41.59

Chart 1.5: Trend of Net Addition in Telephone Subscription



1.7 The net decline in telephone subscribers is 4.13 million in QE Sep-17 as against the net addition of 16.26 million in QE Jun-17.

Table 1.4 : Service Area wise Teledensity

Service Area/ States	As on 30 th June, 2017			As on 30 th September, 2017		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Andhra Pradesh	60.96	192.81	97.86	59.73	193.36	97.14
Assam	50.73	154.22	67.69	50.48	154.19	67.55
Bihar	41.83	186.07	61.80	40.48	185.81	60.61
Delhi	-	-	261.33	-	-	260.53
Gujarat	75.30	166.88	114.04	71.29	159.55	108.70
Haryana	64.90	140.89	92.87	61.97	142.83	91.83
Himachal Pradesh	115.22	411.17	150.44	116.83	414.63	152.37
J&K	67.65	179.51	99.13	67.92	183.64	100.56
Karnataka	58.77	199.25	113.95	58.87	201.67	115.08

Service Area/ States	As on 30 th June, 2017			As on 30 th September, 2017		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Kerala	70.57	251.70	116.34	72.88	259.39	120.00
Madhya Pradesh	44.27	130.51	68.11	43.18	134.30	68.41
Maharashtra (incl. Mumbai)*	71.58	150.63	110.26	70.35	151.35	110.07
North East	62.66	174.63	91.16	63.08	175.70	91.81
Orissa	59.21	183.55	81.56	58.31	183.01	80.79
Punjab	81.84	170.64	121.41	79.98	173.54	121.81
Rajasthan	62.30	186.95	92.51	59.42	187.98	90.60
Tamil Nadu (incl. Chennai)	95.86	150.98	129.54	95.90	151.70	130.13
Uttar Pradesh (incl. UPE & UPW)	46.75	169.01	74.93	46.22	166.07	73.89
West Bengal (incl. Kolkata)*	62.83	169.12	93.44	62.19	170.08	93.28
All India	57.73	172.98	93.98	56.71	173.15	93.40

* 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 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.

1.8 Himachal Pradesh service area has the highest Rural Tele-density of 116.83 followed by Tamil Nadu service area (95.90). Bihar service area continues to have the lowest Rural Tele-density of 40.48.

Table 1.5 : State/UT Area wise subscriber base (wireline+wireless)

Sl.No.	States/UT	Total Telephone Subscribers		
		Total	Rural	Urban
1	Andhra Pradesh	45.71	23.06	22.65
2	Arunachal Pradesh	1.42	0.66	0.76
3	Assam	22.30	13.93	8.38
4	Bihar	62.43	39.02	23.41
5	Chhattisgarh	17.67	8.14	9.53
6	Goa	2.60	1.12	1.47
7	Gujarat	69.38	26.33	43.05
8	Haryana	33.11	11.48	21.63
9	Himachal Pradesh	10.95	7.39	3.55
10	Jammu & Kashmir	12.69	6.15	6.53
11	Jharkhand	22.45	9.82	12.64
12	Karnataka	72.75	22.56	50.19
13	Kerala	43.20	19.57	23.63
14	Madhya Pradesh	54.81	24.94	29.87
15	Maharashtra Incl. Mumbai	134.32	43.47	90.85
16	Manipur	2.76	1.34	1.42
17	Meghalaya	2.30	1.39	0.91
18	Mizoram	1.26	0.47	0.78
19	Nagaland	1.82	0.88	0.93
20	Odisha	34.74	20.55	14.18
21	Punjab	36.29	13.79	22.51
22	Rajasthan	67.48	33.52	33.96
23	Sikkim	0.74	0.40	0.35
24	Tamil Nadu (incl. Chennai)	92.03	26.23	65.81
25	Telangana	41.15	15.39	25.75
26	Tripura	3.47	1.92	1.55
27	Uttar Pradesh (UPE +UPW)	170.02	78.49	91.53
28	Uttarakhand	12.27	5.43	6.84
29	West Bengal Incl. Kolkata	88.17	41.81	46.36
	Union Territories			
1	Andaman & Nicobar Islands	0.65	0.30	0.35
2	Chandigarh	1.88	0.11	1.77
3	Dadar & Nagar Haweli	0.61	0.18	0.43
4	Daman & Diu	0.37	0.07	0.30
5	Delhi	41.59	1.45	40.13
6	Lakshdweep	0.08	0.07	0.003
7	Puduchery	1.25	0.35	0.91
	Total	1206.71	501.82	704.89

Table 1.6 : State/UT Area wise total Teledensity

Sl.No.	State/UT	Total Teledensity		
		Total	Rural	Urban
1	Andhra Pradesh	51.12	59.73	193.36
2	Arunachal Pradesh	106.19	83.13	139.68
3	Assam	67.55	50.48	154.19
4	Bihar	59.05	41.27	209.66
5	Chhattisgarh	67.02	41.29	143.32
6	Goa	126.63	152.81	111.97
7	Gujarat	108.52	71.42	159.07
8	Haryana	117.87	64.79	208.51
9	Himachal Pradesh	152.37	116.83	414.63
10	Jammu & Kashmir	100.56	67.92	183.64
11	Jharkhand	65.44	37.65	153.46
12	Karnataka	115.08	58.87	201.67
13	Kerala	120.06	72.77	259.99
14	Madhya Pradesh	68.87	43.84	131.66
15	Maharashtra Incl. Mumbai	109.79	69.38	152.21
16	Manipur	104.68	67.99	214.39
17	Meghalaya	81.66	62.74	151.33
18	Mizoram	116.28	98.53	130.50
19	Nagaland	75.02	44.11	222.64
20	Odisha	80.79	58.31	183.01
21	Punjab	122.94	80.24	182.43
22	Rajasthan	90.60	59.42	187.98
23	Sikkim	113.19	71.23	347.63
24	Tamil Nadu (incl. Chennai)	131.64	96.47	154.02
26	Tripura	89.16	61.84	196.19
27	Uttar Pradesh (UPE +UPW)	76.10	45.47	180.17
28	Uttarakhand	113.29	71.86	208.96
29	West Bengal Incl. Kolkata	93.02	61.97	169.72
	Union Territories			
1	Andaman & Nicobar Islands	113.89	94.17	139.28
2	Chandigarh	98.55	56.68	103.29
3	Dadar & Nagar Haweli	135.95	122.20	142.78
4	Daman & Diu	105.83	26.95	400.03
5	Delhi	186.81	187.45	186.79
6	Lakshdweep	91.66	120.12	13.29
7	Puduchery	70.70	66.31	72.53
	Total	93.40	56.71	173.15

*Data of Telengana is included in A.P. State as separate projected population data of Telengana is not available.

Table 1.7 : Growth/Decline in Subscriber base

Service Provider	Subscriber base (millions)			Rate of Growth (%)	Market Share in QE Jun-17 (%)	Market Share in QE Sep-17 (%)
	Jun-17	Sep-17	Net Additions			
Bharti	284.53	285.95	1.42	0.50	23.50	23.70
Vodafone	212.09	207.63	-4.47	-2.11	17.52	17.21
IDEA	196.28	190.16	-6.12	-3.12	16.21	15.76
Reliance Com.	82.50	73.31	-9.19	-11.14	6.81	6.08
Tata	45.54	46.76	1.22	2.69	3.76	3.88
Aircel	90.32	88.82	-1.50	-1.66	7.46	7.36
Quadrant	0.27	0.26	-0.01	-1.22	0.02	0.02
Sistema	4.19	3.57	-0.62	-14.70	0.35	0.30
Telenor	47.34	46.01	-1.32	-2.80	3.91	3.81
Reliance Jio	123.36	138.62	15.25	12.36	10.19	11.49
BSNL	117.37	118.61	1.24	1.06	9.69	9.83
MTNL	7.06	7.01	-0.05	-0.65	0.58	0.58
Total	1,210.84	1,206.71	-4.13	-0.34	100	100

1.9 Bharti Airtel is the leading service provider in access segment in terms of number of subscribers with 285.95 million subscribers followed by Vodafone (207.63 million).

1.10 However, Reliance Jio Infocom Ltd. recorded the highest net addition of 15.25 million subscribers and Reliance Communications Group showed maximum decline of 9.19 million subscribers during the QE Sep-17.

Table 1.8 : Market Share of the service providers in total rural subscriber base – Q.E. Sep-17

Service Provider	No. of Total Subscribers (in millions)	No. of Rural Subscribers (in millions)	Percentage of Rural subscribers	Market share of Rural subscribers (%)
Bharti	285.95	141.99	49.66	28.30
Vodafone	207.63	113.74	54.78	22.67
IDEA	190.16	104.29	54.85	20.78
Reliance Com.	73.31	15.12	20.62	3.01
Tata	46.76	8.90	19.04	1.77
Aircel	88.82	31.59	35.57	6.30
Quadrant	0.26	0.06	22.09	0.01
Sistema	3.57	0.78	21.79	0.16
Telenor	46.01	13.22	28.73	2.63
Reliance Jio	138.62	34.62	24.97	6.90
BSNL	118.61	37.46	31.58	7.46
MTNL	7.01	0.05	0.69	0.01
Total	1,206.71	501.82	41.59	100

1.11 IDEA continues to remain the service provider with highest proportion of rural subscribers (54.85%), followed by Vodafone (54.78%) to their total subscribers.

Section B : Wireless Service

Table 1.9: List of Cellular Mobile (GSM, LTE & CDMA) Service Providers currently providing service [As on 30th September, 2017]

Sl.No.	Service Provider	Area of Operation
1	Bharti Airtel Ltd	All India
2	Aircel Group	All India*
3	Reliance Communications Ltd	All India (except Assam & NE)
4	Reliance Telecom Ltd	Kolkata, MP, WB, HP, Bihar, Odisha, 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	Telenor Communications (India) Pvt. Ltd.	Maharashtra, Gujarat, AP, UP(W), UP(E), Assam & Bihar
12	Reliance Jio Infocom Ltd	All India

*TN & AP – CMTS

Source : DoT website

[#]Delhi, HP & UP(E) – CMTS.

In remaining LSAs the TSPs have either UASL, UL or UL(AS).

1.12 Total Wireless (GSM+CDMA) subscriber base declined from 1,186.84 million at the end of Jun-17 to 1,183.04 million at the end of Sep-17, thereby showing a quarterly growth rate of -0.32%. During this quarter, net decline of 3.80 million wireless subscribers was recorded. However, total wireless subscribers showed year-on-year (Y-O-Y) positive growth rate of 12.70% during Q.E. Sep-17.

1.13 Wireless Teledensity also declined from 92.12 at the end of Jun-17 to 91.56 at the end of Sep-17.

Chart 1.6: Wireless Subscriber Base and Teledensity



Table 1.10: Wireless Subscriber Base & Teledensity - Rural & Urban

Quarter ending	Subscriber Base (million)		Tele-density	
	Rural	Urban	Rural	Urban
Sep-16	445.94	603.80	50.80	151.10
Dec-16	464.78	662.60	52.84	165.04
Mar-17	497.76	672.42	56.47	166.71
Jun-17	506.18	680.66	57.31	167.97
Sep-17	498.28	684.77	56.31	168.20

1.14 The Rural Wireless subscribers declined from 506.18 million at the end of Jun-17 to 498.28 million at the end of Sep-17, however the urban wireless subscribers increased from 680.66 million to 684.77 million during the quarter.

1.15 Quarterly Growth rates of Rural and Urban wireless subscriptions are -1.56% and 0.60% respectively during the QE Sep-17.

1.16 The share of rural wireless subscription declined from 42.65% to 42.12% in total wireless subscription in this quarter.

Chart 1.7: Wireless Market Share - Rural & Urban

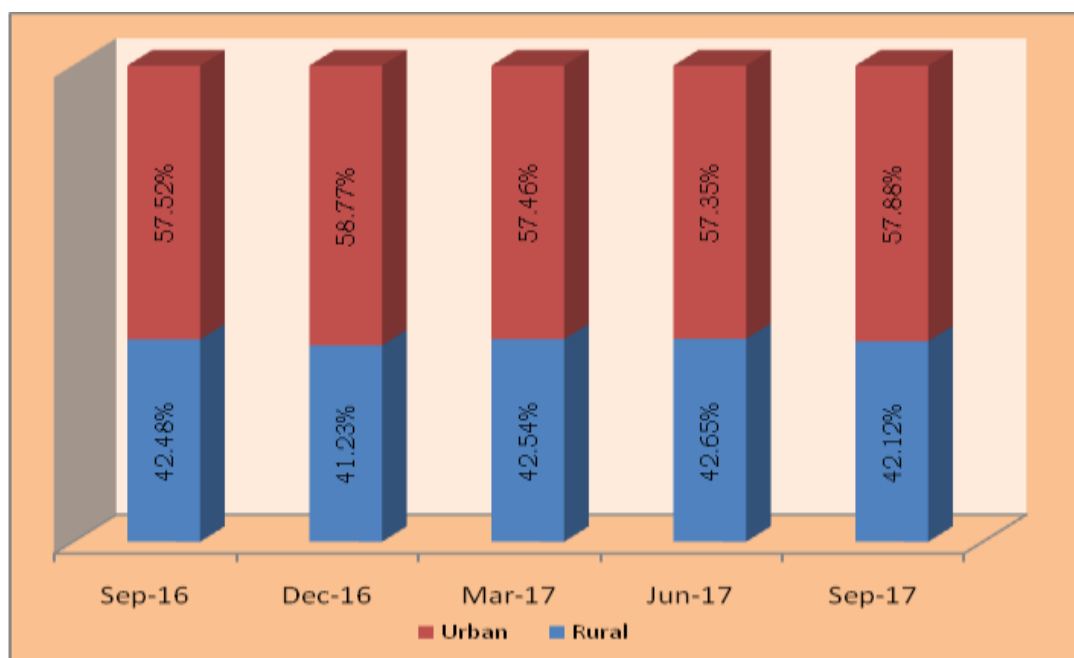


Table 1.11: Growth in Wireless Subscriber base

Service Provider	Subscriber Base (millions)			Rate of Growth (%)	Market Share Jun-17 (%)	Market Share Sep-17 (%)
	Jun-17	Sep-17	Net Additions			
Bharti	280.65	282.05	1.40	0.50	23.65	23.84
Vodafone	211.94	207.44	-4.50	-2.12	17.86	17.53
IDEA	196.28	190.16	-6.12	-3.12	16.54	16.07
Reliance Jio	123.36	138.62	15.25	12.36	10.39	11.72
BSNL	104.16	105.81	1.65	1.59	8.78	8.94
Aircel	90.32	88.75	-1.57	-1.74	7.61	7.50
Reliance Com	81.34	72.16	-9.17	-11.28	6.85	6.10
Telenor	47.34	46.01	-1.32	-2.80	3.99	3.89
Tata	43.70	44.92	1.21	2.77	3.68	3.80
MTNL	3.62	3.61	-0.02	-0.44	0.31	0.30
Sistema	4.13	3.52	-0.61	-14.88	0.35	0.30
Total	1,186.84	1,183.04	-3.80	-0.32	100	100

- 1.17 Bharti remains the leading service provider with 282.05 million wireless subscribers at the end of Sep-17, followed by Vodafone (207.44 million).
- 1.18 In terms of net additions during the quarter ending Sep-17, Reliance Jio (15.25 million) has added the highest number of subscribers, however, Reliance Communications Group showed maximum decline of 9.17 million in its wireless subscribers.

Table 1.12: Service Area wise Wireless Subscriber base

Service Area	Subscriber base (in million)			
	Jun-17	Sep-17	Net Additions	Rate of change (%)
Andhra Pradesh	85.75	85.29	-0.46	-0.54
Assam	22.14	22.16	0.02	0.08
Bihar	86.01	84.60	-1.40	-1.63
Delhi	54.55	54.75	0.20	0.37
Gujarat	72.30	69.06	-3.24	-4.48
Haryana	25.67	25.48	-0.19	-0.73
Himachal Pradesh	10.64	10.81	0.17	1.57
Jammu & Kashmir	12.35	12.56	0.21	1.74
Karnataka	69.63	70.48	0.85	1.22
Kerala	39.82	41.25	1.43	3.59
Madhya Pradesh	70.92	71.48	0.57	0.80
Maharashtra	95.09	94.61	-0.48	-0.50
Mumbai	36.77	37.47	0.69	1.89
North East	12.78	12.90	0.13	1.00
Orissa	34.72	34.46	-0.26	-0.75
Punjab	37.09	37.35	0.26	0.71
Rajasthan	67.98	66.80	-1.18	-1.73
T.N. (incl. Chennai)	90.24	90.86	0.61	0.68
U.P.(E)	106.46	105.68	-0.78	-0.73
U.P.(W)	67.56	66.55	-1.01	-1.50
Kolkata	29.48	29.75	0.27	0.92
West Bengal	58.89	58.68	-0.22	-0.37
All India	1,186.84	1,183.04	-3.80	-0.32

Table 1.13: Service Area wise Wireless Rural-Urban Subscriber base

Service Area	Subscriber base (in million) – Sep-17			
	Total	Rural	Urban	% of Rural Subscribers
Andhra Pradesh	85.29	38.18	47.11	44.77
Assam	22.16	13.90	8.26	62.74
Bihar	84.60	48.76	35.84	57.64
Delhi	54.75	2.59	52.16	4.73
Gujarat	69.06	26.41	42.66	38.24
Haryana	25.48	10.92	14.56	42.85
Himachal Pradesh	10.81	7.31	3.50	67.60
Jammu & Kashmir	12.56	6.14	6.43	48.86
Karnataka	70.48	22.39	48.09	31.77
Kerala	41.25	18.42	22.83	44.65
Madhya Pradesh	71.48	32.97	38.51	46.12
Maharashtra	94.61	42.72	51.88	45.16
Mumbai	37.47	1.55	35.92	4.12
North East	12.90	6.64	6.26	51.46
Orissa	34.46	20.49	13.97	59.46
Punjab	37.35	13.68	23.67	36.62
Rajasthan	66.80	33.41	33.38	50.02
T.N. (incl. Chennai)	90.86	26.23	64.62	28.87
U.P.(E)	105.68	54.54	51.14	51.61
U.P.(W)	66.55	28.64	37.91	43.04
Kolkata	29.75	2.80	26.95	9.41
West Bengal	58.68	39.58	19.10	67.45
All India	1,183.04	498.28	684.77	42.12

1.19 Detailed table on service provider wise subscriber base in each service area is at Annexure-1.1.

Table 1.14 : Service Area wise Wireless Tele-density

Service Area	As on 30 th June, 2017			As on 30 th September, 2017		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
A.P.	60.51	187.60	96.07	59.30	188.19	95.38
Assam	50.63	151.94	67.24	50.39	151.98	67.10
Bihar	41.76	184.99	61.59	40.42	184.77	60.42
Delhi	-	-	246.77	-	-	245.95
Gujarat	74.80	162.74	112.00	70.80	155.47	106.69
Haryana	64.52	138.35	91.69	61.63	140.36	90.71
H.P.	113.83	404.81	148.46	115.54	408.52	150.51
J&K	67.48	176.36	98.12	67.77	180.61	99.59
Karnataka	58.29	190.88	110.38	58.42	193.23	111.49
Kerala	65.85	242.77	110.56	68.33	250.64	114.38
M.P.	44.12	127.44	67.15	43.03	131.28	67.47
Maharashtra (incl. Mumbai)*	71.05	143.12	106.32	69.84	143.95	106.18
North East	62.44	172.03	90.33	62.86	173.17	91.00
Orissa	59.03	180.71	80.91	58.14	180.25	80.15
Punjab	80.50	165.38	118.33	78.71	168.48	118.85
Rajasthan	62.09	183.67	91.56	59.22	184.80	89.68
Tamil Nadu (incl. Chennai)	94.59	146.09	126.06	94.67	146.95	126.74
Uttar Pradesh (incl. UPE&UPW)*	46.69	167.59	74.56	46.17	164.68	73.52
West Bengal (incl. Kolkata)*	62.64	165.42	92.24	62.00	166.46	92.10
All India	57.31	167.97	92.12	56.31	168.20	91.56

* 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 1.15 : State/UT Area wise Wireless Subscriber Base

Sl.No.	States/UT	Wireless Subscribers (in million)		
		Total	Rural	Urban
1	Andhra Pradesh	44.84	22.85	22.00
2	Arunachal Pradesh	1.39	0.65	0.74
3	Assam	22.16	13.90	8.26
4	Bihar	62.27	38.95	23.32
5	Chhattisgarh	17.47	8.12	9.36
6	Goa	2.48	1.09	1.39
7	Gujarat	68.09	26.15	41.94
8	Haryana	32.74	11.42	21.32
9	Himachal Pradesh	10.81	7.31	3.50
10	Jammu & Kashmir	12.56	6.14	6.43
11	Jharkhand	22.33	9.81	12.52
12	Karnataka	70.48	22.39	48.09
13	Kerala	41.18	18.35	22.83
14	Madhya Pradesh	54.01	24.85	29.16
15	Maharashtra	129.60	43.18	86.42
16	Manipur	2.74	1.34	1.40
17	Meghalaya	2.28	1.39	0.90
18	Mizoram	1.24	0.47	0.77
19	Nagaland	1.80	0.88	0.92
20	Odisha	34.46	20.49	13.97
21	Punjab	35.55	13.57	21.98
22	Rajasthan	66.80	33.41	33.38
23	Sikkim	0.74	0.40	0.34
24	Tamil Nadu	89.66	25.90	63.77
25	Telangana	40.44	15.33	25.11
26	Tripura	3.45	1.91	1.54
27	Uttar Pradesh	169.23	78.40	90.83
28	Uttarakhand	12.16	5.42	6.74
29	West Bengal	87.06	41.69	45.37
Union Territories				
1	Andaman & Nicobar Islands	0.63	0.30	0.34
2	Chandigarh	1.69	0.11	1.58
3	Dadar & Nagar Haweli	0.60	0.18	0.42
4	Daman & Diu	0.37	0.07	0.29
5	Delhi	38.45	-	38.45
6	Lakshdweep	0.07	0.07	-
7	Puduchery	1.19	0.34	0.86
Total		1183.04	498.28	684.77

Table 1.16 : State/UT Area wise Wireless Tele-density

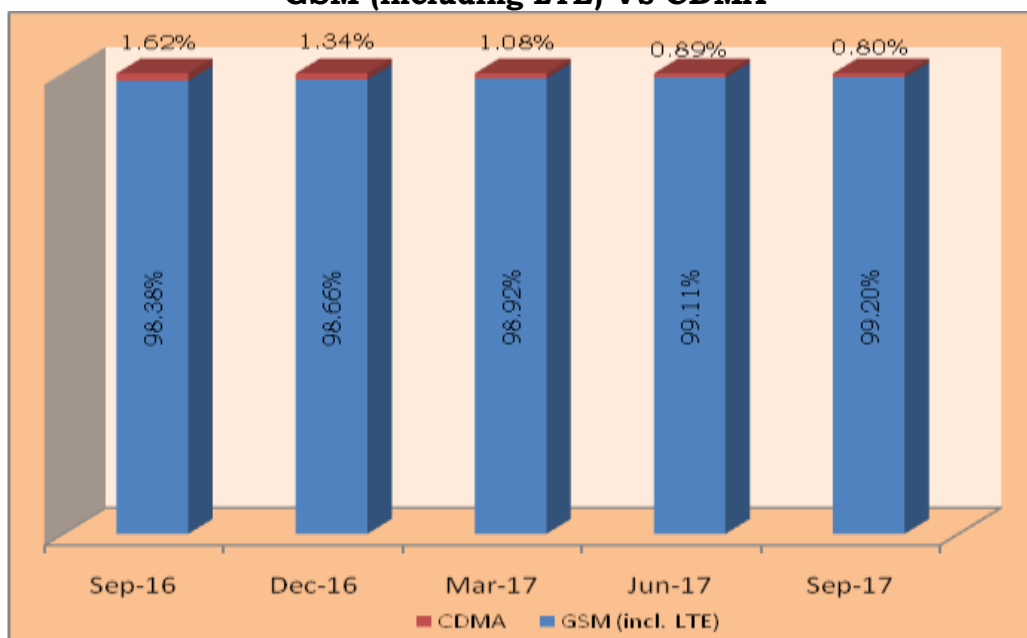
Sl.No.	State/UT	Wireless Teledensity		
		Total	Rural	Urban
1	Andhra Pradesh*	95.38	59.30	188.19
2	Arunachal Pradesh	104.40	82.28	136.52
3	Assam	67.10	50.39	151.98
4	Bihar	58.90	41.20	208.89
5	Chhattisgarh	66.29	41.18	140.73
6	Goa	120.87	147.85	105.76
7	Gujarat	106.50	70.93	154.96
8	Haryana	116.53	64.45	205.45
9	Himachal Pradesh	150.51	115.54	408.52
10	Jammu & Kashmir	99.59	67.77	180.61
11	Jharkhand	65.08	37.61	152.07
12	Karnataka	111.49	58.42	193.23
13	Kerala	114.45	68.23	251.24
14	Madhya Pradesh	67.86	43.67	128.51
15	Maharashtra	105.94	68.92	144.79
16	Manipur	103.86	67.73	211.88
17	Meghalaya	81.01	62.64	148.67
18	Mizoram	114.77	98.25	128.01
19	Nagaland	74.52	44.05	220.01
20	Odisha	80.15	58.14	180.25
21	Punjab	120.43	78.97	178.18
22	Rajasthan	89.68	59.22	184.80
23	Sikkim	112.15	71.12	341.39
24	Tamil Nadu	128.25	95.25	149.24
25	Tripura	88.57	61.62	194.16
26	Uttar Pradesh	75.74	45.42	178.79
27	Uttarakhand	112.27	71.69	205.99
28	West Bengal	91.85	61.78	166.10
	Union Territories			
1	Andaman & Nicobar Islands	111.25	92.36	135.56
2	Chandigarh	88.66	55.54	92.40
3	Dadar & Nagar Haweli	135.08	121.21	141.96
4	Daman & Diu	104.09	26.07	395.06
5	Delhi	172.72	-	-
6	Lakshdweep	84.12	114.67	-
7	Puduchery	67.35	64.52	68.53
	All India Teledensity	91.56	56.31	168.20

*Data of Telengana is included in A.P. State as separate projected population data of Telengana is not available.

Table 1.17 : 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	282.05	141.99	50.34	28.50
Vodafone	207.44	113.74	54.83	22.83
IDEA	190.16	104.29	54.85	20.93
Reliance Jio	138.62	34.62	24.97	6.95
BSNL	105.81	34.03	32.16	6.83
Aircel	88.75	31.59	35.59	6.34
Reliance Com.	72.16	15.12	20.95	3.03
Telenor	46.01	13.22	28.73	2.65
Tata	44.92	8.85	19.70	1.78
Sistema	3.52	0.77	21.86	0.15
MTNL	3.61	0.05	1.34	0.01
Total	1,183.04	498.28	42.12	100

Chart 1.8: Share of Wireless Subscription: GSM (including LTE) Vs CDMA



1.20 At the end of Sep-17, GSM (including LTE) subscribers constituted 99.20% share of the wireless market as compare to 99.11% in previous quarter.

GSM Services (including LTE)

1.21 The GSM (including LTE) subscribers increased from 1,176.31 million at the end of Jun-17 to 1,173.63 million at the end of Sep-17, showing a quarterly growth of -0.23%. Bharti with 282.05 million subscribers continues to be the largest GSM mobile operator, followed by Vodafone (207.44 million).

Table 1.18 : Group-wise Market Share (in terms of subscription) within GSM Service

Service Provider	As on 30th June, 2017		As on 30th September, 2017		Net Additions during QE Sep-17 (in million)
	No of Subscribers (in millions)	Market Share (%)	No of Subscribers (in millions)	Market Share (%)	
Bharti	280.65	23.86	282.05	24.03	1.40
Vodafone	211.94	18.02	207.44	17.68	-4.50
Idea	196.28	16.69	190.16	16.20	-6.12
Reliance Jio	123.36	10.49	138.62	11.81	15.25
BSNL	103.43	8.79	105.12	8.96	1.69
Aircel	90.32	7.68	88.75	7.56	-1.57
Reliance Comm. Group	81.34	6.91	72.16	6.15	-9.17
Telenor	47.34	4.02	46.01	3.92	-1.32
Tata	38.03	3.23	39.71	3.38	1.68
MTNL	3.62	0.31	3.61	0.31	-0.02
Total	1176.31	100	1173.63	100	-2.68

1.22 There has been a net decline of 2.68 million GSM subscribers during the quarter ending Sep-17. However, M/s Reliance Jio showed maximum net addition of 15.25 million in its GSM(LTE) subscriber base and Reliance Communications Group showed maximum decline of 9.17 million in its GSM subscriber base during the same period.

CDMA Services

1.23 There were only three telecom service providers providing CDMA services during the quarter ending Sep-17. The CDMA subscriber base declined from 10.53 million at the end of Jun-17 to 9.41 million at the end of Sep-17, thereby showing a quarterly decline rate of 10.64%. Tata Teleservices with 5.21 million subscribers became the leading operator in CDMA service.

Table 1.19 : Market Share (in terms of subscription) within CDMA Service

Service Provider	As on 30 th June, 2017		As on 30 th September, 2017		Net Addition/ decline during the quarter (in million)
	No of Subscribers (in million)	Market Share (%)	No of Subscribers (in million)	Market Share (%)	
Tata	5.67	53.87	5.21	55.32	-0.47
Sistema	4.13	39.23	3.52	37.37	-0.61
BSNL	0.73	6.90	0.69	7.31	-0.04
Total	10.53	100	9.41	100	-1.12

1.24 There has been a net decline of 1.12 million CDMA subscribers during the quarter ending Sep-17.

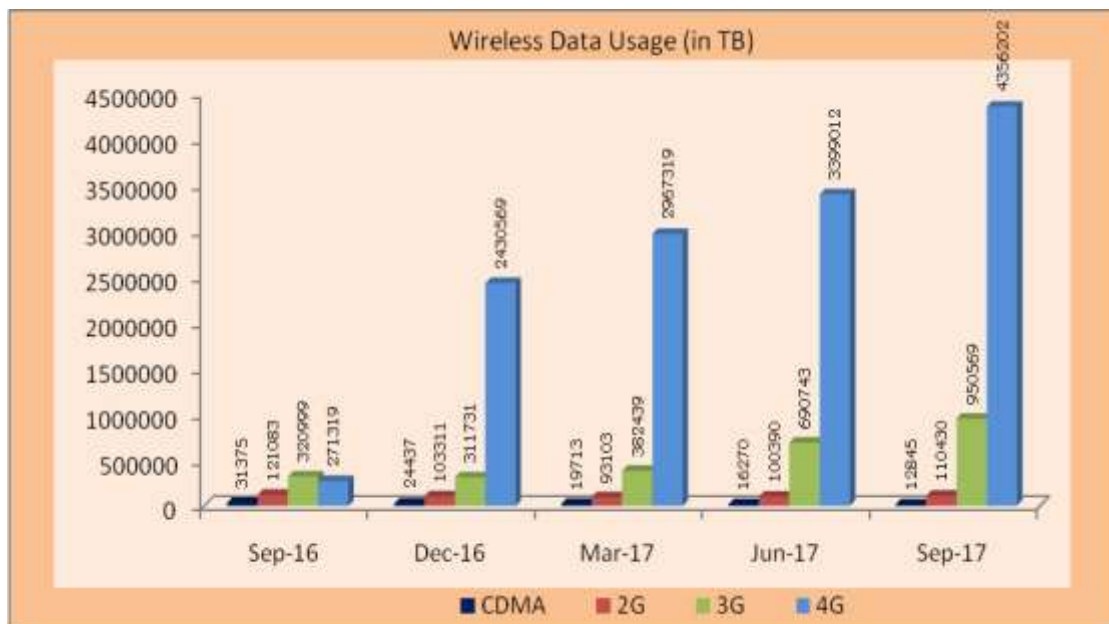
1.25 In terms of net additions during the quarter, all the three service providers recorded decline in their CDMA subscriber base.

Wireless Data Usage

1.26 As per the report furnished by the wireless service providers, number of total mobile data users declined from 409.28 million in QE Jun-17 to 407.67 million in QE Sep-17. About 34.46% of the total mobile subscribers used data services in the Q.E. Sep-17.

1.27 During the Q.E. Sep-17, total wireless data usage was 5,430,046 terabytes. Out of which, 2G data usage was 110,430 terabytes, 3G data usage was 950,569 terabyte, 4G data usage was 4,356,202 terabytes and CDMA data usage was 12,845 terabytes.

Chart 1.9: Trend of wireless data use (in Terabyte)



1.28 The contribution of 3G and 4G data usage in total data usage are about 18% and 80% respectively during the Q.E. Sep-17.

1.29 Wireless Data usage per subscriber per month over the total wireless subscribers is 1,600 MB during the Q.E. Sep-17.

Section C : Wireline Service

Table 1.20 : Service Providers providing Wireline Service

[As on 30th September, 2017]

Sl. No.	Name of the Service Provider	Area of Operation
1	Aircel	Andhra Pradesh (excluding Telangana), Delhi, Gujarat, Karnataka, Kolkata, Maharashtra (Excluding Mumbai & Goa) Mumbai, Rajasthan, UP-East, UP-West (Excluding Uttarakhand)
2	Bharti Airtel Ltd	Telangana, Delhi, Gujarat, Haryana, Karnataka, Kerala, Kolkata, Madhya Pradesh (excluding Chhattisgarh), Chhattisgarh, Maharashtra(excluding Mumbai), Mumbai, Punjab, Rajasthan, Tamilnadu (excluding Chennai), Chennai, UP-East and UP-West(excluding Uttarakhand).
3	BSNL	All India except Delhi & Mumbai
4	MTNL	Delhi & Mumbai
5	Quadrant Televentures Ltd.	Punjab
6	Reliance Communications Ltd.	Andhra Pradesh (excluding Telangana), Telangana, Bihar (Excluding Jharkhand), Jharkhand, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Kolkata, Madhya Pradesh (excluding Chattisgarh), Chhattisgarh, Maharashtra (Excluding Mumbai & Goa) Goa, Mumbai, Orissa, Punjab, Rajasthan, Tamilnadu (excluding Chennai), Chennai, UP-East, UP-West (Excluding Uttarakhand) and West Bengal (Excluding Andaman & Nicobar)
7	Sistema Shyam Teleservices Ltd.	Rajasthan
8	Tata Teleservices (Maharashtra) Ltd.	Maharashtra & Goa, Mumbai
9	Tata Teleservices Ltd.	Andhra Pradesh (Excluding Telangana), Telangana, Assam, Bihar (Excluding Jharkhand), Jharkhand, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Kolkata, Madhya Pradesh (Excluding Chattisgarh), Chhattisgarh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Orissa, Punjab, Rajasthan, Tamilnadu (Excluding Chennai), UP-East, UP-West (Excluding Uttarakhand), West Bengal (Excluding Andaman & Nicobar) and Sikkim

1.30 Total Wireline subscriber base declined from 24.00 million at the quarter ending Jun-17 to 23.67 at the end of Sep-17. Overall Wireline Teledensity also declined from 1.86 at the end of Jun-17 to 1.83 at the end of Sep-17.

1.31 Rural subscriber base has shown decline of 3.92%, from 3.69 Million at the end of Jun-17 to 3.55 Million at the end of Sep-17. Urban wireline subscription also recorded decline rate of 0.90%, from 20.31 million to 20.12 million during the same period.

Chart 1.10: Wireline Subscriber Base and Teledensity



Table 1.21 : Wireline Subscriber Base & Teledensity - Rural & Urban

Quarter ending	Subscriber Base (million)		Teledensity	
	Rural	Urban	Rural	Urban
Sep-16	3.92	20.57	0.45	5.15
Dec-16	3.86	20.55	0.44	5.12
Mar-17	3.85	20.56	0.44	5.10
Jun-17	3.69	20.31	0.42	5.01
Sep-17	3.55	20.12	0.40	4.94

Table 1.22 : Service Provider wise Subscriber base (Rural - Urban)

Service Provider	Subscriber Base (million) Sep-17			Share of Rural subscription (%)
	Rural	Urban	Total	
BSNL	3.42	9.37	12.80	26.74
Bharti	--	3.90	3.90	--
MTNL	--	3.40	3.40	--
Tata	0.05	1.79	1.85	2.98
Reliance	0.002	1.15	1.15	0.15
Quadrant	0.06	0.21	0.26	22.09
Vodafone	--	0.18	0.18	--
Aircel	0.00	0.07	0.07	--
Sistema	0.01	0.04	0.05	17.46
Total	3.55	20.12	23.67	15.03

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

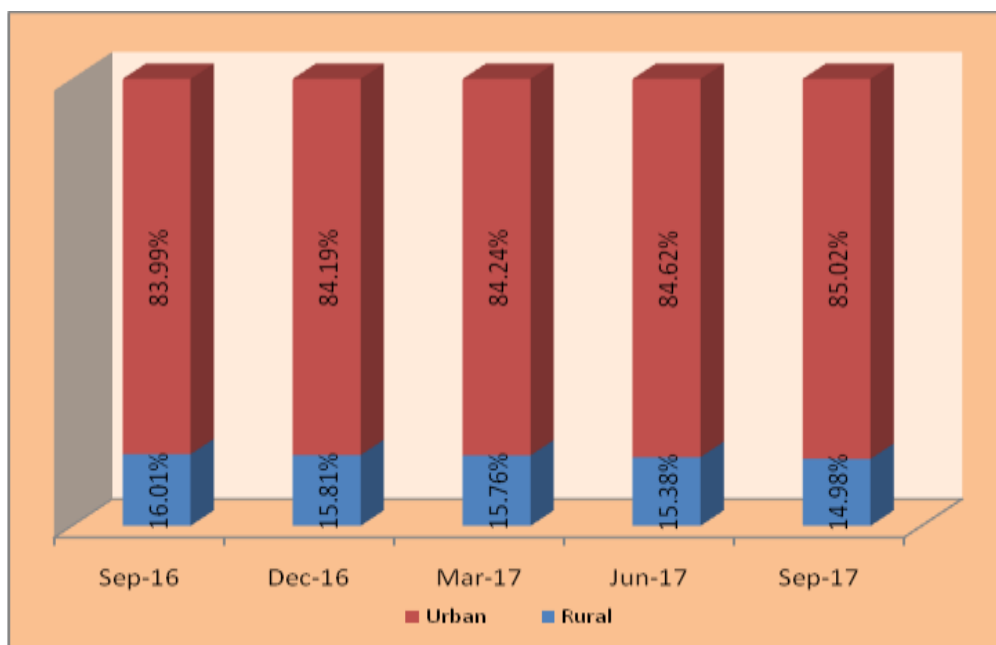


Table 1.23 : Service Provider wise growth in Wireline Subscriber base

Service Provider	Subscriber Base (million)			Rate of change (%)	Market share-Jun-17(%)	Market share-Sep-17(%)
	Jun-17	Sep-17	Net Addition			
BSNL	13.21	12.80	-0.415	-3.14	55.05	54.06
Bharti	3.88	3.90	0.023	0.60	16.17	16.49
MTNL	3.43	3.40	-0.030	-0.87	14.31	14.38
Tata	1.83	1.85	0.012	0.66	7.64	7.80
Reliance	1.16	1.15	-0.015	-1.32	4.85	4.86
Quadrant	0.27	0.26	-0.003	-1.22	1.11	1.11
Vodafone	0.15	0.18	0.029	18.80	0.64	0.77
Sistema	0.06	0.05	-0.001	-1.79	0.23	0.23
Aircel	-	0.07	0.072	-	-	0.30
Total	24.00	23.67	-0.328	-1.37	100	100

Note:- M/s Aircel Ltd has started reporting of wireline subscriber base during the quarter ending September, 2017.

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

Table 1.24: Service Area wise Wireline Subscriber base & Net Additions (in million)

Service Area	Jun-17	Sep-17	Net Additions	Rate of Change (%)
Andhra Pradesh	1.60	1.57	-0.025	-1.59
Assam	0.15	0.15	-0.005	-3.04
Bihar	0.29	0.28	-0.012	-4.22
Delhi	3.22	3.25	0.026	0.80
Gujarat	1.32	1.30	-0.015	-1.16
Haryana	0.33	0.32	-0.013	-4.07
Himachal Pradesh	0.14	0.13	-0.008	-5.68

Service Area	Jun-17	Sep-17	Net Additions	Rate of Change (%)
Jammu & Kashmir	0.13	0.12	-0.005	-4.16
Karnataka	2.26	2.27	0.017	0.74
Kerala	2.08	2.02	-0.057	-2.73
Madhya Pradesh	1.01	1.00	-0.013	-1.30
Maharashtra	1.85	1.81	-0.043	-2.31
Mumbai	3.04	3.03	-0.008	-0.27
North East	0.12	0.12	-0.002	-2.05
Orissa	0.28	0.27	-0.007	-2.45
Punjab	0.97	0.93	-0.036	-3.75
Rajasthan	0.71	0.68	-0.026	-3.68
T.N. (incl. Chennai)	2.49	2.43	-0.059	-2.38
U.P.(E)	0.49	0.49	0.003	0.59
U.P.(W)	0.38	0.37	-0.013	-3.49
Kolkata	0.84	0.83	-0.014	-1.69
West Bengal	0.32	0.31	-0.010	-3.20
All India	24.00	23.67	-0.328	-1.37

1.33 Only Delhi, Karnataka and UP(East) Service areas showed positive growth rate of in wireline subscriber base during QE Sep-17. All other service areas showed decline in wireline subscriber base during the quarter.

**Table 1.25: Service Area wise Wireline Rural-Urban Subscriber
Base- Sep-17 (in million)**

Service Area	Total Subscribers	Rural Subscribers	Urban Subscribers	% of Rural Subscribers
Andhra Pradesh	1.57	0.28	1.29	17.77
Assam	0.15	0.03	0.12	17.86
Bihar	0.28	0.08	0.20	27.41
Delhi	3.25	-	3.25	-
Gujarat	1.30	0.18	1.12	14.16
Haryana	0.32	0.06	0.26	18.94
Himachal Pradesh	0.13	0.08	0.05	60.84
Jammu & Kashmir	0.12	0.01	0.11	11.45
Karnataka	2.27	0.17	2.10	7.51
Kerala	2.02	1.23	0.80	60.58
Madhya Pradesh	1.00	0.11	0.88	11.43
Maharashtra	1.81	0.32	1.48	17.96
Mumbai	3.03	-	3.03	-
North East	0.12	0.02	0.09	20.36
Orissa	0.27	0.06	0.21	21.97
Punjab	0.93	0.22	0.71	23.61
Rajasthan	0.68	0.11	0.57	16.12
T.N. (incl. Chennai)	2.43	0.34	2.09	14.01
U.P.(E)	0.49	0.07	0.42	13.86
U.P.(W)	0.37	0.04	0.33	10.20
Kolkata	0.83	-	0.83	-
West Bengal	0.31	0.13	0.18	42.63
All India	23.67	3.55	20.12	14.98

Table 1.26: Service Area wise Wireline Teledensity

Service Area	As on 30 th June, 2017			As on 30 th September, 2017		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Andhra Pradesh	0.46	5.22	1.79	0.43	5.16	1.76
Assam	0.10	2.28	0.46	0.09	2.20	0.44
Bihar	0.07	1.08	0.21	0.06	1.04	0.20
Delhi	-	-	14.56	-	-	14.58
Gujarat	0.50	4.14	2.04	0.49	4.08	2.01
Haryana	0.38	2.54	1.18	0.34	2.47	1.12
Himachal Pradesh	1.39	6.36	1.98	1.29	6.11	1.86
Jammu & Kashmir	0.17	3.16	1.01	0.15	3.03	0.97
Karnataka	0.47	8.37	3.57	0.45	8.44	3.59
Kerala	4.71	8.93	5.78	4.55	8.76	5.61
Madhya Pradesh	0.15	3.07	0.96	0.15	3.02	0.94
Maharashtra (incl. Mumbai)*	0.53	7.50	3.94	0.51	7.40	3.89
North East	0.23	2.60	0.83	0.22	2.54	0.81
Orissa	0.18	2.84	0.66	0.17	2.76	0.64
Punjab	1.34	5.26	3.08	1.26	5.06	2.96
Rajasthan	0.21	3.28	0.96	0.20	3.18	0.92
Tamil Nadu (incl. Chennai)	1.27	4.89	3.48	1.23	4.75	3.39
Uttar Pradesh (incl. UPE & UPW)	0.06	1.41	0.37	0.06	1.39	0.37
West Bengal (incl. Kolkata)*	0.20	3.70	1.21	0.19	3.62	1.18
All India	0.42	5.01	1.86	0.40	4.94	1.83

* 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.

Table 1.27: State/UT wise Wireline Subscriber base

Sl.No.	States/UT	Wireline Subscribers		
		Total	Rural	Urban
1	Andhra Pradesh	0.86	0.22	0.65
2	Arunachal Pradesh	0.02	0.01	0.02
3	Assam	0.15	0.03	0.12
4	Bihar	0.15	0.07	0.09
5	Chhattisgarh	0.19	0.02	0.17
6	Goa	0.12	0.04	0.08
7	Gujarat	1.29	0.18	1.11
8	Haryana	0.38	0.06	0.32
9	Himachal Pradesh	0.13	0.08	0.05
10	Jammu & Kashmir	0.12	0.01	0.11
11	Jharkhand	0.13	0.01	0.11
12	Karnataka	2.27	0.17	2.10
13	Kerala	2.02	1.22	0.79
14	Madhya Pradesh	0.81	0.09	0.71
15	Maharashtra Incl. Mumbai	4.72	0.29	4.43
16	Manipur	0.02	0.01	0.02
17	Meghalaya	0.02	0.00	0.02
18	Mizoram	0.02	0.00	0.01
19	Nagaland	0.01	0.00	0.01
20	Odisha	0.27	0.06	0.21
21	Punjab	0.74	0.22	0.52
22	Rajasthan	0.68	0.11	0.57
23	Sikkim	0.01	0.00	0.01
24	Tamil Nadu (incl. Chennai)	2.37	0.33	2.04
25	Telangana	0.71	0.06	0.65
26	Tripura	0.02	0.01	0.02
27	Uttar Pradesh (UPE +UPW)	0.79	0.09	0.70
28	Uttarakhand	0.11	0.01	0.10
29	West Bengal Incl. Kolkata	1.11	0.12	0.99
	Union Territories			
1	Andaman & Nicobar Islands	0.02	0.01	0.01
2	Chandigarh	0.19	0.00	0.19
3	Dadar & Nagar Haweli	0.00	0.00	0.00
4	Daman & Diu	0.01	0.00	0.00
5	Delhi	3.14	0.00	3.14
6	Lakshdweep	0.01	0.00	0.00
7	Puduchery	0.06	0.01	0.05
	Total	23.67	3.55	20.12

Table 1.28: State/UT wise Wireline Teledensity

Sl.No.	State/UT	Wireline Teledensity		
		Total	Rural	Urban
1	Andhra Pradesh	1.76	0.43	5.16
2	Arunachal Pradesh	1.79	0.85	3.16
3	Assam	0.44	0.09	2.20
4	Bihar	0.14	0.07	0.77
5	Chhattisgarh	0.73	0.10	2.59
6	Goa	5.76	4.96	6.21
7	Gujarat	2.02	0.49	4.11
8	Haryana	1.34	0.34	3.06
9	Himachal Pradesh	1.86	1.29	6.11
10	Jammu & Kashmir	0.97	0.15	3.03
11	Jharkhand	0.37	0.04	1.40
12	Karnataka	3.59	0.45	8.44
13	Kerala	5.61	4.55	8.74
14	Madhya Pradesh	1.01	0.16	3.14
15	Maharashtra Incl. Mumbai	3.86	0.46	7.43
16	Manipur	0.83	0.27	2.50
17	Meghalaya	0.65	0.10	2.66
18	Mizoram	1.51	0.28	2.49
19	Nagaland	0.50	0.05	2.63
20	Odisha	0.64	0.17	2.76
21	Punjab	2.51	1.27	4.25
22	Rajasthan	0.92	0.20	3.18
23	Sikkim	1.04	0.11	6.24
24	Tamil Nadu (incl. Chennai)	3.39	1.22	4.78
25	Tripura	0.59	0.22	2.03
26	Uttar Pradesh (UPE + UPW)	0.36	0.05	1.38
27	Uttarakhand	1.02	0.18	2.98
28	West Bengal Incl. Kolkata	1.17	0.18	3.61
	Union Territories			
1	Andaman & Nicobar Islands	2.64	1.80	3.72
2	Chandigarh	9.90	1.14	10.89
3	Dadar & Nagar Haweli	0.88	1.00	0.82
4	Daman & Diu	1.74	0.88	4.97
5	Delhi	14.09	0.00	14.59
6	Lakshdweep	7.54	5.46	13.29
7	Puduchery	3.35	1.80	4.00
	Total	1.83	0.40	4.94

*Data of Telengana is included in A.P. State as separate projected population data of Telengana is not available.

Public Call Offices (PCO)

1.34 Total number of PCOs in the country declined from 4,29,139 at the end of Jun-17 to 4,13,275 at the end of Sep-17. Detailed table of service provider wise PCOs is available at Annexure -1.3.

Chart 1.11: Trend of Number of PCOs



Table 1.29 : Rate of change & Market share of PCOs

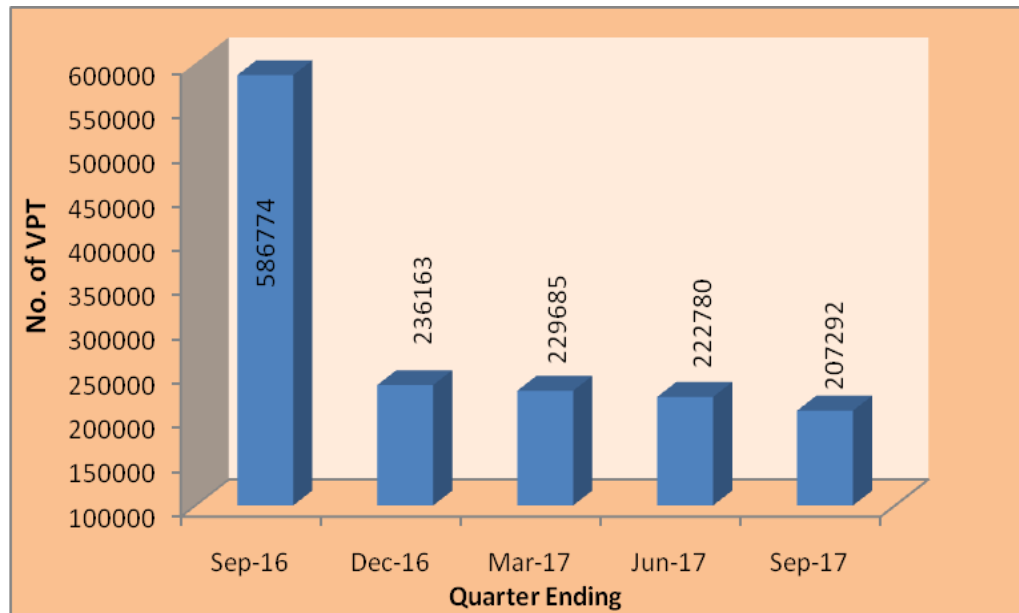
Service Provider	Jun-17 (in lakh)	Sep-17 (in lakh)	Rate of change (%)	Market share (%) (Jun-17)
BSNL	2.60	2.46	-5.44	59.56
MTNL	1.27	1.23	-3.24	29.75
Bharti	0.14	0.13	-4.67	3.24
Quadrant	0.02	0.01	-6.15	0.34
Sistema	0.10	0.09	-0.35	2.30
Tata	0.17	0.20	19.22	4.81
Total	4.29	4.13	-3.70	100

1.35 Number of PCOs continued shows declining trend. At the Q.E. Sep-17, it has recorded a overall decline of 3.70%. The year-on-year (Y-O-Y) decline rate over the same quarter of the last year is 18.68%.

Village Public Telephones (VPTs)

- 1.36 There are 5,93,731 inhabited villages in India as per census 2001. At the end of the quarter, 34.91% of the total inhabited villages in India have been connected by VPTs.
- 1.37 Number of VPTs declined from 2,22,780 at the end of Jun-17 to 2,07,292 at the end of Sep-17.
- 1.38 As per the information received in TRAI, at the end of Sep-17, only one service provider M/s BSNL was providing VPT in the country. Service area wise detailed table of VPT is available at Annexure -1.4.

Chart 1.12: Growth/decline Trend in VPTs



Section D: Internet Service

1.39 This section summarizes information submitted by 156 internet service providers for the quarter ending Sep-17. **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)

1.40 As per reports received from operators, total number of internet subscribers declined from 431.21 million at the end of Jun-17 to 429.23 million at the end of Sep-17 with quarterly decline rate of 0.46%.

1.41 Wired Internet subscribers declined from 21.67 million at the end of Jun-17 to 21.35 million at the end of Sep-17 with quarterly decline rate of 1.44%, and Wireless Internet subscribers declined from 409.55 million at the end of Jun-17 to 407.88 million at the end of Sep-17 with quarterly decline rate of 0.41%.

1.42 Number of Broadband subscribers increased from 300.84 million at the end of Jun-17 to 324.89 million at the end of Sep-17 with quarterly growth rate of 8.00%. However, the number of Narrowband subscribers declined from 130.38 million at the end of Jun-17 to 104.34 million at the end of Sep-17 with quarterly decline rate of 19.97%.

Table 1.30: 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-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17
Broadband	18.33	18.04	0.519	0.456	281.99	306.40	282.51	306.86	300.84	324.89
Narrowband	3.33	3.32	0.019	0.016	127.02	101.01	127.04	101.03	130.38	104.34
Total	21.67	21.35	0.538	0.472	409.01	407.41	409.55	407.88	431.21	429.23

1.43 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

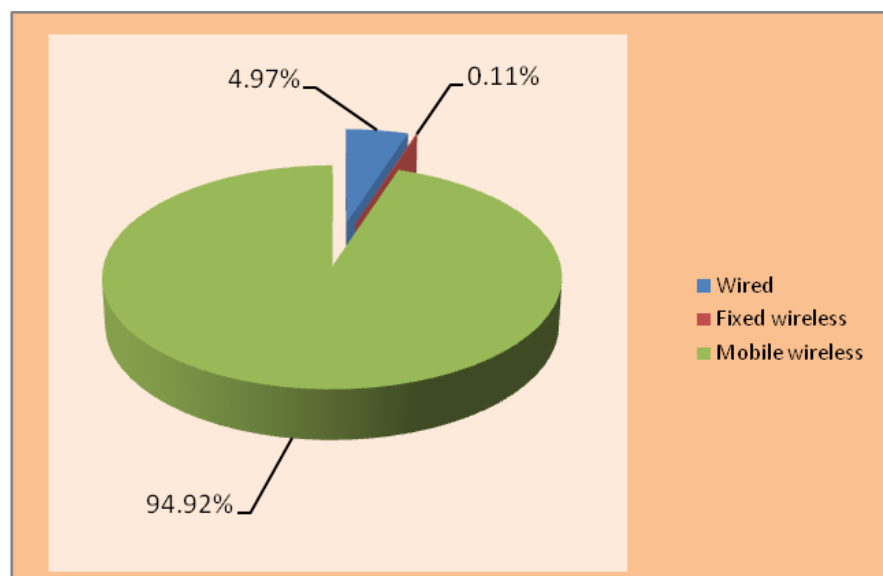
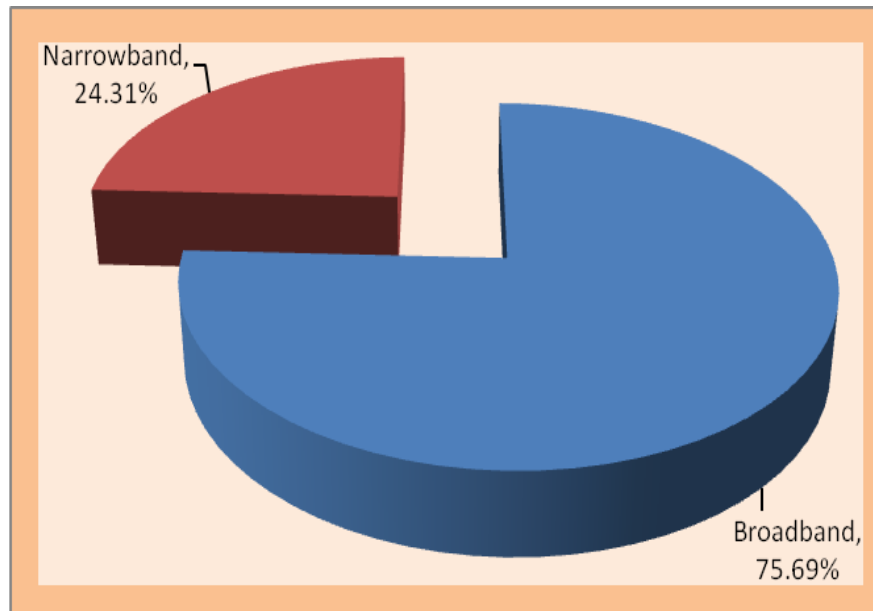
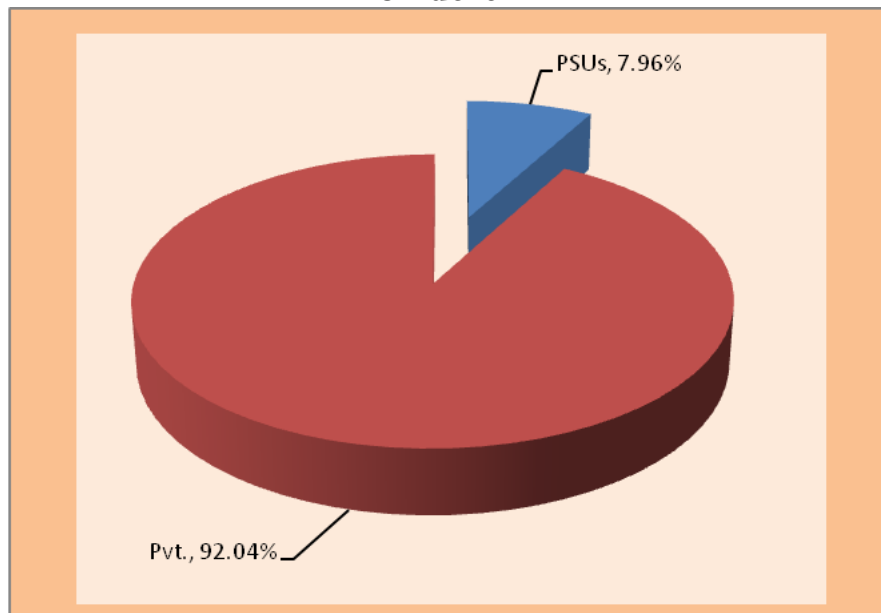


Chart 1.14 : Composition of Broadband & Narrowband subscription



1.44 Private internet service providers hold 92.04% market share of total internet subscribers at the Q.E. Sep-17. The following charts present the composition of market share of PSUs and Private Internet service providers.

Chart 1.15 : Market share of PSUs and Private Internet Service Providers



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

Table 1.31: Break up of Rural-Urban internet subscriber base

Telecom Service Area	Narrowband		Broadband		Total Internet	
	Rural	Urban	Rural	Urban	Rural	Urban
Andhra Pradesh	3.10	4.37	7.99	17.11	11.10	21.47
Assam	2.29	0.73	2.29	3.12	4.58	3.85
Bihar	5.33	3.10	5.56	8.76	10.89	11.86
Delhi	0.26	4.42	0.47	22.98	0.73	27.40
Gujarat	1.91	2.72	5.52	16.52	7.42	19.24
Haryana	0.77	1.08	2.32	5.76	3.08	6.84
Himachal Pradesh	0.58	0.44	1.42	1.69	2.00	2.13
Jammu & Kashmir	0.85	0.60	0.92	2.41	1.77	3.01
Karnataka	2.01	3.51	4.33	19.25	6.35	22.76
Kerala	1.26	1.85	5.72	9.84	6.98	11.69
Kolkata	0.60	2.48	0.71	8.44	1.31	10.93
Madhya Pradesh	2.30	3.08	3.48	12.98	5.78	16.06
Maharashtra	2.97	4.13	8.34	19.56	11.31	23.69
Mumbai	0.13	3.58	0.46	15.31	0.60	18.89
North East	1.01	0.62	1.29	3.31	2.29	3.93
Orissa	1.85	1.39	2.66	3.95	4.51	5.34
Punjab	1.47	2.07	2.69	10.30	4.16	12.37
Rajasthan	2.90	3.26	4.90	10.61	7.81	13.87
Tamil Nadu	2.58	5.68	5.99	20.22	8.57	25.90
Uttar Pradesh(East)	6.02	3.91	6.69	11.84	12.71	15.75
Uttar Pradesh(West)	3.25	2.86	3.34	12.03	6.59	14.89
West Bengal	3.73	1.27	5.14	6.69	8.87	7.96
Total	47.19	57.16	82.22	242.67	129.41	299.83

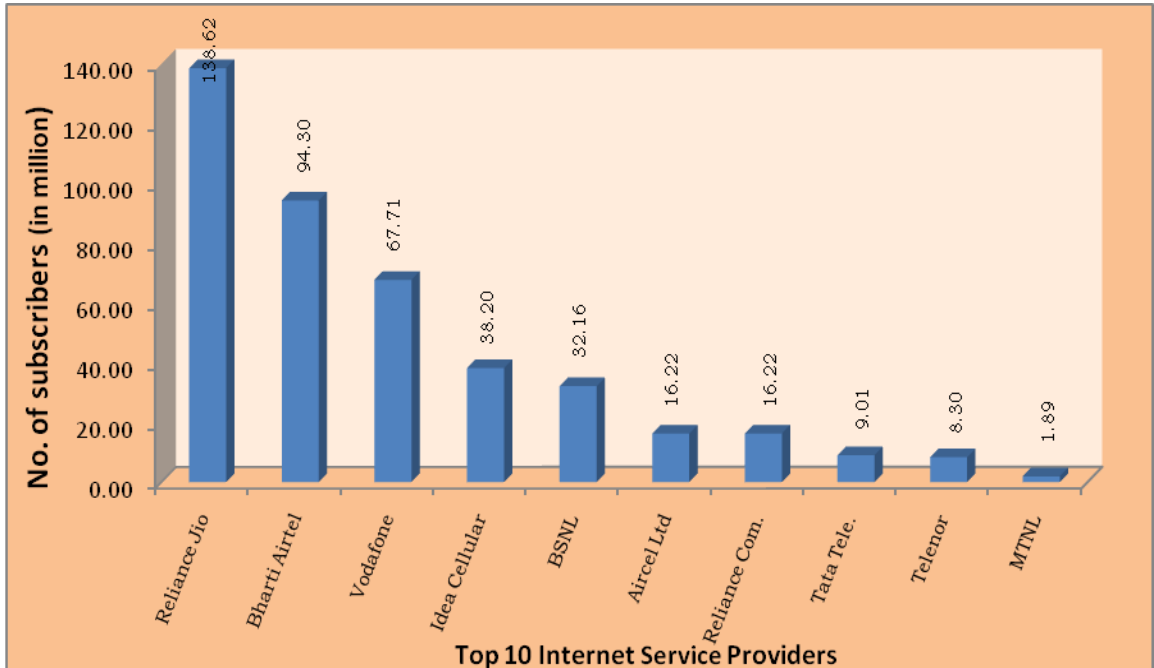
Table 1.32: Internet Subscriber Base and Market Share of top 10 Service Providers – Sep-17

S.No	ISP	No. of Subscribers	Share (%)
1	RJIL	138,615,904	32.29
2	Bharti Airtel Limited	94,303,482	21.97
3	Vodafone	67,711,508	15.77
4	Idea Cellular	38,203,737	8.90
5	BSNL	32,158,076	7.49
6	Aircel Ltd	16,220,721	3.78
7	Reliance Communications	16,215,875	3.78
8	Tata Teleservices	9,006,304	2.10
9	Telenor	8,300,667	1.93
10	MTNL	1,893,420	0.44
	Total of Top 10 ISPs	422,629,694	98.46
	Others	6,603,858	1.54
	Grand Total	429,233,552	100

1.46 Reliance Jio holds the top position with 32.29% of market share of internet subscribers followed by Bharti Airtel with 21.97%. Top 10 Service Providers together hold 98.46% of total internet subscriber base at the QE Sep-17. Detailed table of number of internet subscriber base (broadband and narrowband) of all the service providers is available at Annexure-1.5.

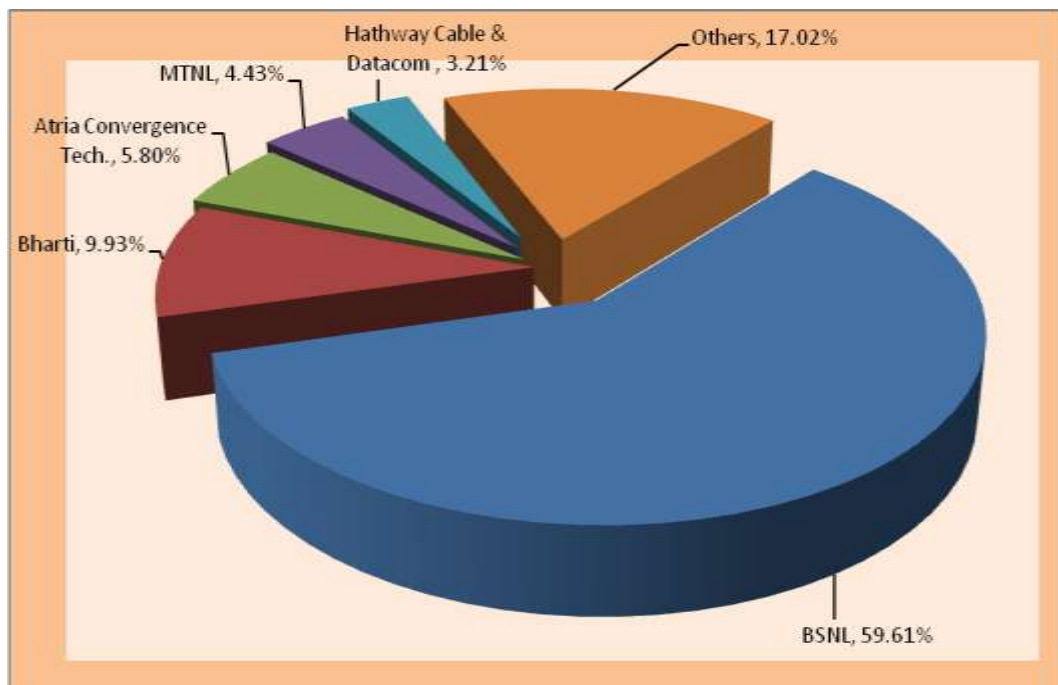
1.47 The following chart depicts the internet subscriber base of top ten ISPs in the QE Sep-17.

Chart 1.17 : Subscriber base of top ten ISPs



1.48 In wired internet segment, BSNL holds 59.61% market share with 12.74 million subscribers, followed by Bharti with 2.12 million subscribers. Total number of wired internet subscriber is 21.35 million at the end of Sep-17.

Chart 1.18 : Composition of Wired Internet subscribers



1.49 In wireless internet segment, Reliance Jio holds 33.98% market share with 138.62 million subscribers followed by Bharti Airtel with 92.18 million wireless internet subscribers at the QE Sep-17.

Chart 1.19 : Composition of Wireless Internet subscription

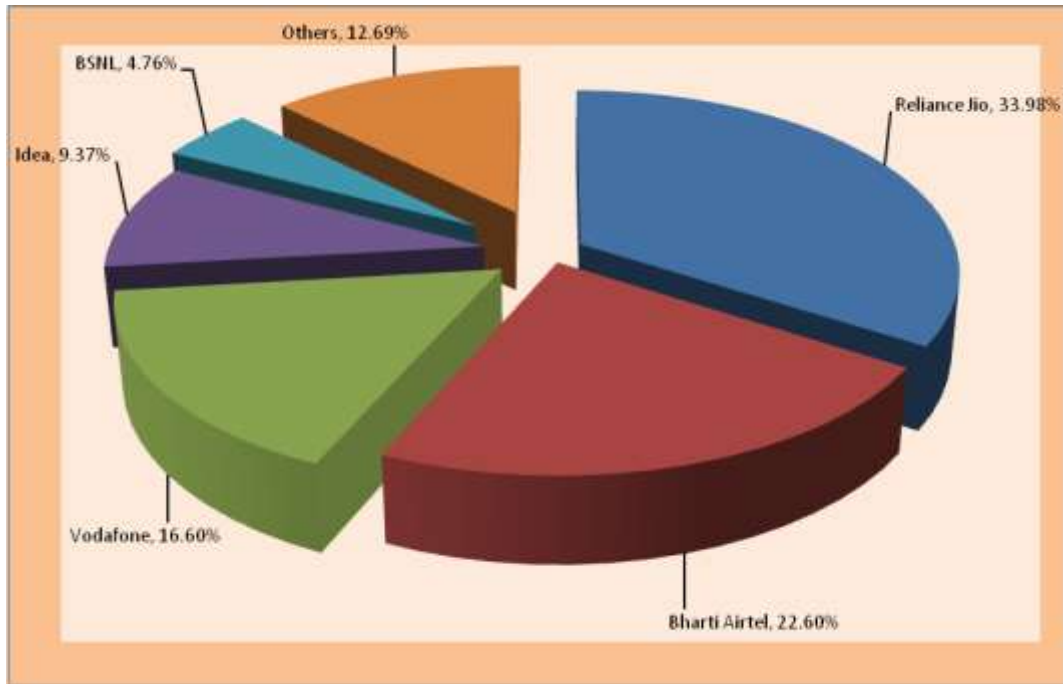


Chart 1.20 : Technology trend for Wireless Internet Access – Sep-17

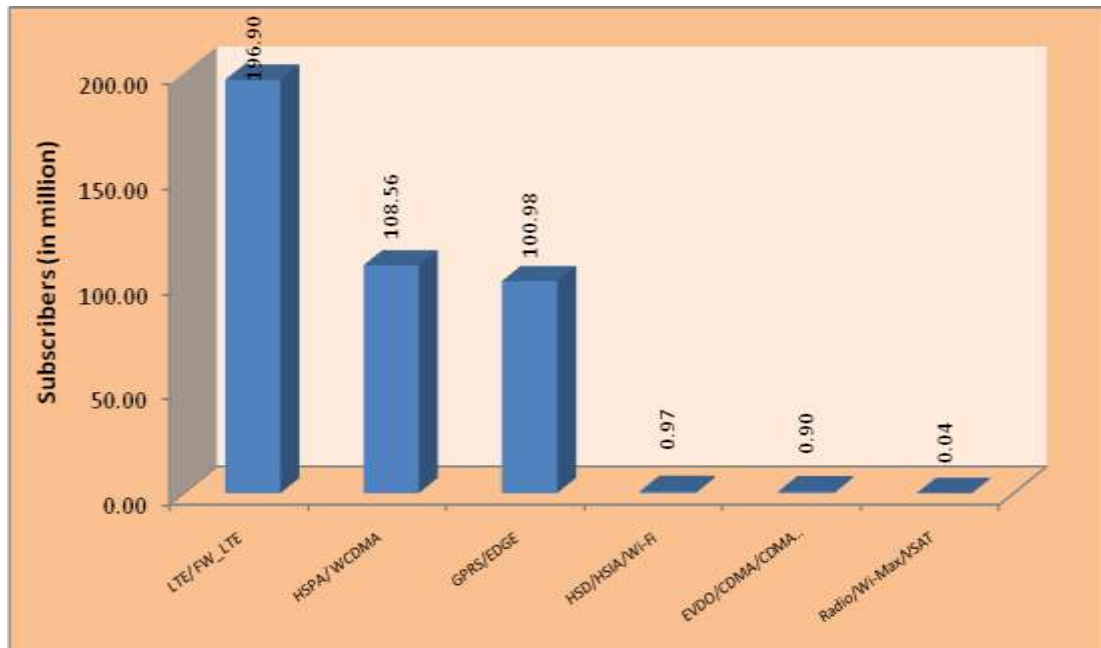
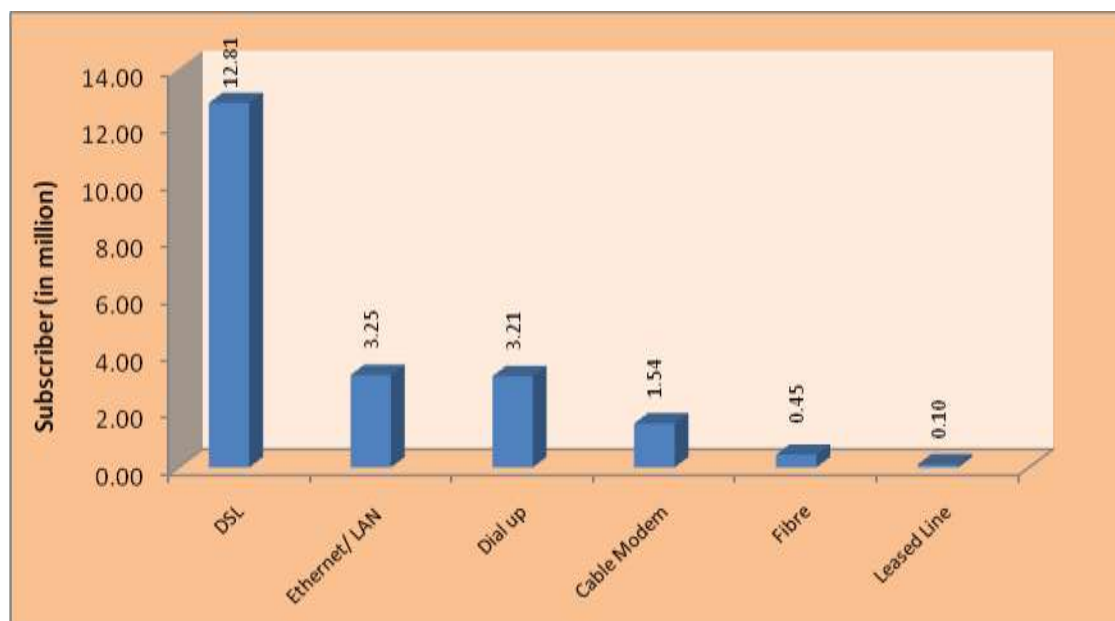


Chart 1.21 : Technology trend for Wired Internet Access – Sep-17



1.50 Top five service areas in terms of internet subscriptions (wired + wireless) are Maharashtra (35.01 million), Tamil Nadu including Chennai (34.47 million), Andhra Pradesh (32.57 million), Karnataka (29.11 million) and U.P.(E) (28.46 million).

Table 1.33 : Service Area wise number of Internet Subscribers per 100 population at the end of Sep-17

Service Area	Internet Subscribers (in million)			No. of Internet subscribers per 100 population		
	Rural	Urban	Total	Rural	Urban	Total
Andhra Pradesh	11.10	21.47	32.57	17.23	85.78	36.42
Assam	4.58	3.85	8.43	16.60	70.82	25.52
Bihar	10.89	11.86	22.75	9.02	61.15	16.25
Delhi	0.73	27.40	28.13	93.86	127.52	126.34
Gujarat	7.42	19.24	26.66	19.90	70.13	41.19
Haryana	3.08	6.84	9.92	17.41	65.92	35.32
Himachal Pradesh	2.00	2.13	4.13	31.56	248.52	57.46
Jammu & Kashmir	1.77	3.01	4.79	19.57	84.67	37.93
Karnataka	6.35	22.76	29.11	16.57	91.46	46.05

Service Area	Internet Subscribers (in million)			No. of Internet subscribers per 100 population		
	Rural	Urban	Total	Rural	Urban	Total
Kerala	6.98	11.69	18.67	25.89	128.32	51.77
Madhya Pradesh	5.78	16.06	21.83	7.54	54.74	20.61
Maharashtra	11.31	23.69	35.01	18.79	69.81	43.81
Mumbai	0.60	18.89	19.48			
North East	2.29	3.93	6.22	21.72	108.59	43.88
Orissa	4.51	5.34	9.86	12.80	68.95	22.92
Punjab	4.16	12.37	16.53	23.96	88.03	52.60
Rajasthan	7.81	13.87	21.67	13.84	76.77	29.10
Tamil Nadu	8.57	25.90	34.47	30.94	58.89	48.09
UP (East)	12.71	15.75	28.46	10.71	56.66	21.32
UP (West)	6.59	14.89	21.48			
Kolkata	1.31	10.93	12.24	14.90	68.28	30.28
West Bengal	8.87	7.96	16.83			
Total	129.41	299.83	429.23	14.62	73.65	33.22

* 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 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.

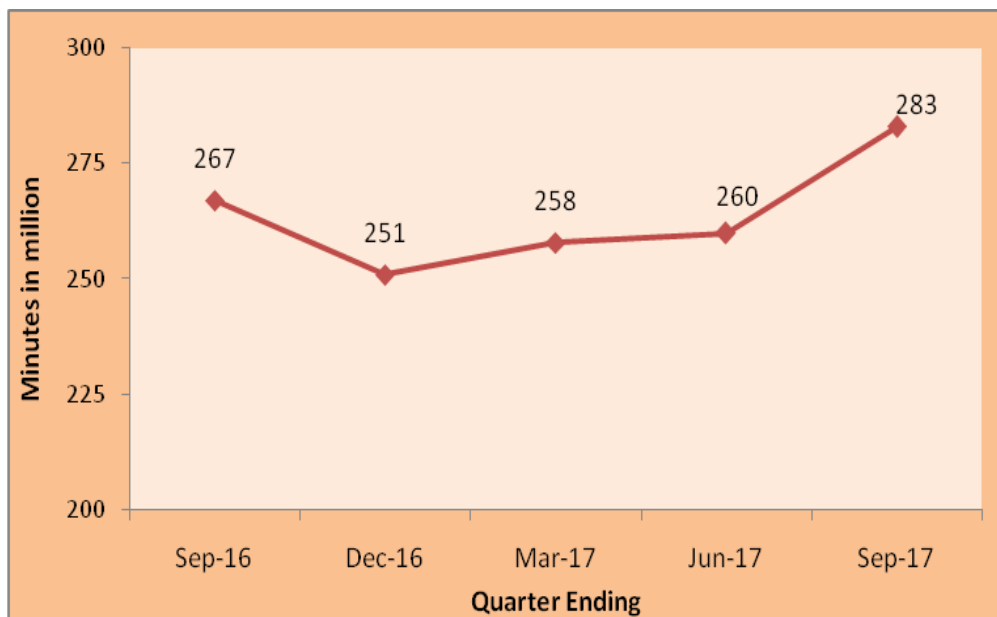
ISP Connectivity

1.51 The International Internet bandwidth owned by various service providers is reported to be 2,956 Gbps during the quarter ending Sep-17 as compared to 2,933 Gbps during the previous quarter.

Internet Telephony

1.52 As per the reports received from 16 service providers, providing Internet Telephony services, the total outgoing minutes of usage for internet telephony is 283 million during the Q.E. Sep-17. List of Internet Telephony Service providers is available at Annexure-1.6.

Chart 1.22 : Trends in MOU for Internet Telephony



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

1.53 The total number of broadband subscribers increased from 300.84 million at the end of Jun-17 to 324.89 million at the end of Sep-17. Out of which wired broadband subscribers are 18.04 million and wireless broadband subscribers are 306.86 million.

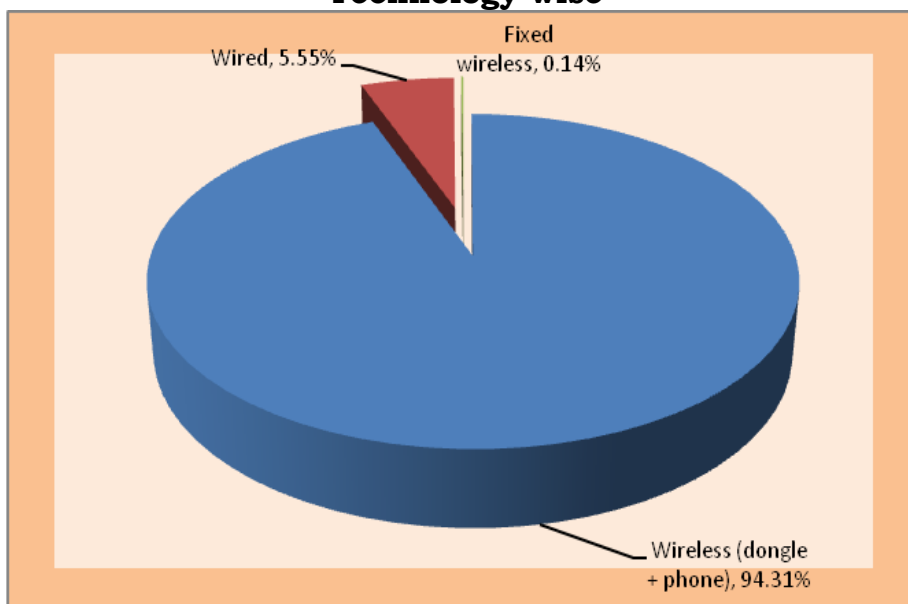
1.54 Top five broadband (wired+wireless) service providers in term of subscribers are Reliance Jio (138.62 million), Bharti (62.29 million), Vodafone (45.98 million), Idea Cellular (29.61 million) and BSNL (21.24 million).

1.55 In wired broadband segment, BSNL holds 52.91% market share with 9.54 million subscribers followed by Bharti with 2.12 million subscribers.

1.56 In wireless broadband segment, Reliance Jio holds 33.98% market share with 138.62 million subscribers followed by Bharti (14.75%) with 60.17 million subscribers.

1.57 Top five service areas in respect of broadband subscriptions are Maharashtra (27.90 million), Tamil Nadu including Chennai (26.21 million), Andhra Pradesh (25.10 million), Karnataka (23.58 million) and Delhi (23.45 million).

Chart 1.23 : Composition of Broadband subscription – Technology wise

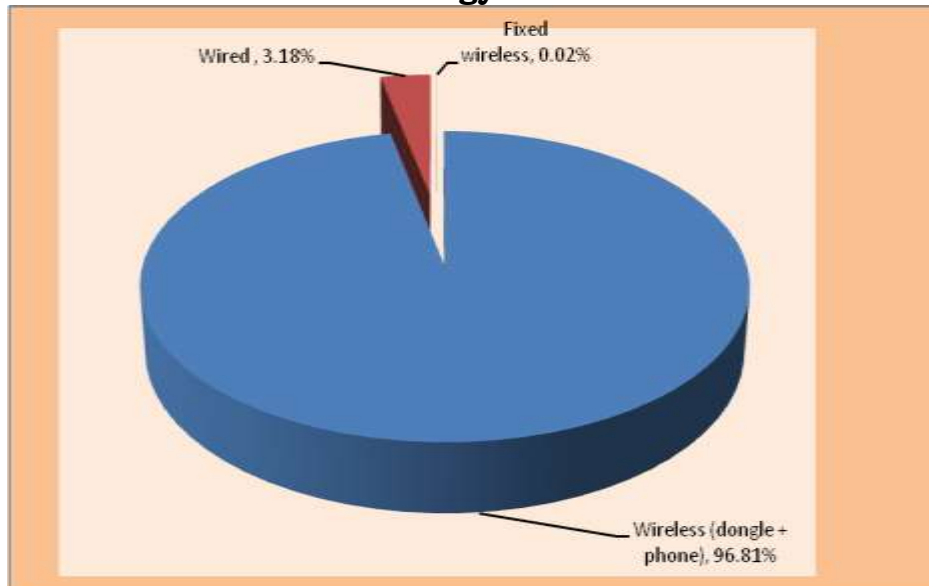


1.58 Mobile Device Users (dongle+phone) constitute 94.31% of total broadband subscribers at the end of Sep-17.

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

- 1.59 Total number of narrowband subscribers declined from 130.38 million at the end of Jun-17 to 104.36 million at the end of Sep-17 with the quarterly decline rate of 19.97%. Out of 104.36 million narrowband subscribers, Wired Narrowband subscribers are 3.32 million and Wireless Narrowband subscribers are 101.03 million.
- 1.60 The top five narrowband (wired + wireless) service providers in term of subscriber base are Bharti (32.01 million), Vodafone (21.74 million), BSNL (10.92 million), Idea Cellular (8.59 million) and Telenor (7.97 million).
- 1.61 In wired narrowband segment, BSNL holds 96.37% market share with 3.195 million subscribers followed by Joister Infoserve Pvt Ltd. (Syscon Infoway Pvt Ltd) with 0.027 million.
- 1.62 In wireless narrowband segment, Bharti holds 31.69% market share with 32.01 million subscribers followed by Vodafone (21.74 million).

Chart 1.24 : Composition of Narrowband subscription – Technology wise



Section E : Other Value Added Services - PMRTS & VSAT

Public Mobile Radio Trunk Services (PMRTS)

1.63 The subscriber base of PMRTS declined from 53,111 at the end of Jun-17 to 52,810 at the end of Sep-17 with quarterly decline rate of 0.57%.

Table 1.34 : PMRTS Subscriber base - Service Provider wise

Sr. No .	Name of the Service Provider	Subscriber Base as on 30.06.2017	Subscriber Base as on 30.09.2017	Growth in Subscribers	% Growth in subscribers in QE Sep-17
1	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	44391	44039	-352	-0.79%
4	Procall Ltd.	3022	3005	-17	-0.56%
2	Inative Networks Pvt Ltd	1820	1820	0	0.00%
3	Quick Call	1447	1490	43	2.97%
5	Smartlink Pvt Ltd	1039	986	-53	-5.10%
6	Bhilwara Telenet Services Pvt Ltd	805	811	6	0.75%
7	Wiwonet Solutions Pvt Ltd	273	345	72	26.37%
8	Airtalk Solutions & Services Pvt Ltd	314	314	0	0.00%
	Total	53111	52810	-301	-0.57%

1.64 Detailed table on Service Area wise subscriber base of PMRTS is available at Annexure-1.7.

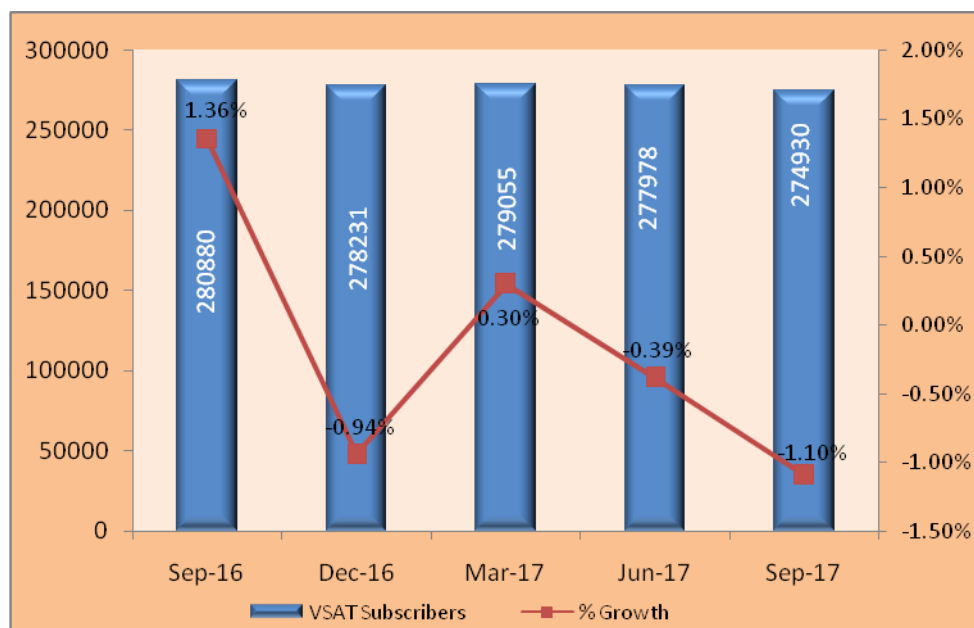
Chart 1.25 : Number of PMRTS subscribers & Rate of Growth (%)



Very Small Aperture Terminal (VSAT)

1.65 The total number of VSAT subscribers declined from 2,77,978 at the end of Jun-17 to 2,74,930 at the end of Sep-17. Net decline during the quarter has been 3,048 at the decline rate of 1.10%.

Chart 1.26 : Number of VSAT Subscribers & Rate of Growth (%)



**Table 1.35 : 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-17
		Jun-17	Sep-17			
1	Hughes Communications Ltd.	100,482	100,579	97	0.10	36.58
2	Bharti Airtel Limited	70,935	72,002	1,067	1.50	26.19
3	Tatanet Services	56,733	56,871	138	0.24	20.69
4	HCL Comnet	27,448	23,506	-3,942	-14.36	8.55
5	BSNL	19,699	19,239	-460	-2.34	7.00
6	Infotel Satcom	2,587	2,659	72	2.78	0.97
7	Planetcast Media Services Ltd	94	74	-20	-21.28	0.03
	Total	277,978	274,930	-3048	-1.10	100

1.66 Hughes Communication Limited continues to be the market leader in VSAT with subscriber base of 1,00,579 followed by Bharti Airtel Ltd (72,002) at the end of Sep-17.

1.67 M/s Bharti Airtel added maximum number of VSAT i.e. 1,067 subscribers in QE Sep-17, however M/s Infotel Satcom has recorded maximum growth rate of 2.78% in its VSAT subscribers during the quarter.

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, 2017 to 30th September, 2017 in the various service areas.

Section A: GSM and LTE Services

Table 2.1: Key Indicators - GSM and LTE Services

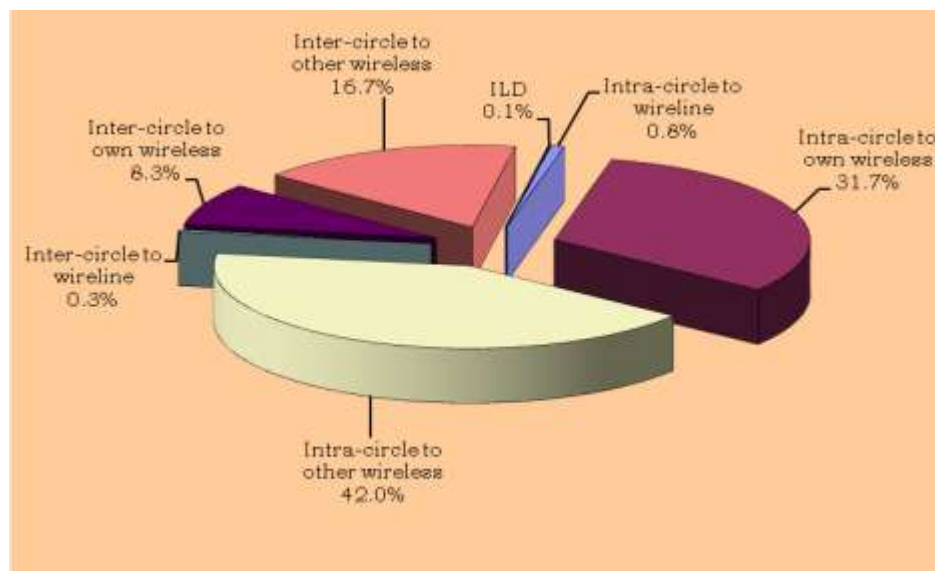
Parameter	Sep-17	Jun-17	Sep-16	QoQ %age change	YoY %age change
Subscriber Base* (million)	1173.20#	1176.37	1012.06	-0.27	15.92
Share of Prepaid (%)	95.59%	95.52%	95.13%	0.07	0.48
Incoming MOU* per subscriber per month	220.88	215.51	188.09	2.50	17.44
Outgoing MOU* per subscriber per month	215.73	212.84	177.51	1.36	21.53
No. of Outgoing SMS per subscriber per month	15.29	16.01	19.45	-4.48	-21.38
Average Revenue Per User (ARPU) per month (₹)	83.89	79.58	120.98	5.42	-30.65

* Subscriber figures are closing figures as on last day of the quarter.

Subscriber figures for 4G LTE is also included.

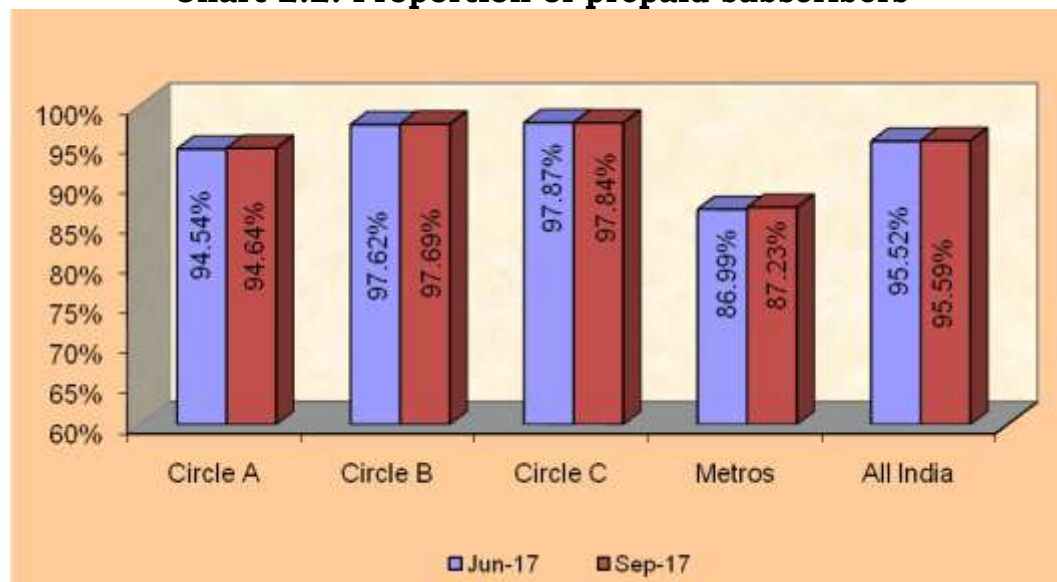
2.1 The following chart presents % break-up of outgoing minutes from Home Service Area (HSA) in the QE Sep-17.

Chart 2.1: Break-up of Outgoing minutes from Home Service Area (HSA) - GSM and LTE Services



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



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

2.3 Market share of prepaid segment increased from 95.52% at the end of Jun-17 to 95.59% at the end of Sep-17.

2.4 The ARPU per month (all India, blended) increased from ₹80 in Q.E. Jun-17 to ₹84 in Q.E. Sep-17. 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 and LTE Services in QE Sep-17

Circle Category	ARPU per month (in ₹)		
	Post-paid	Pre-paid	Blended
Circle A	380	79	95
Circle B	356	70	77
Circle C	291	70	75
Metros	355	48	88
All India	361	71	84
All private SPs	366	72	85
BSNL/MTNL	294	62	69

2.5 The ARPU per month for pre-paid segment increased from ₹65 in QE Jun-17 to ₹71 in QE Sep-17, however ARPU per month for postpaid segment declined from ₹389 in QE Jun-17 to ₹361 in QE Sep-17.

2.6 The following table presents the composition of ARPU per month in the QE Sep-17.

Table 2.3: Composition of ARPU per month - GSM and LTE Services in QE Sep-17

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	19.01	20.5%
1.2.	Revenue from calls	28.95	31.2%
1.3.	Revenue from SMS	1.86	2.0%
1.4.	Revenue from data usage	33.36	35.9%
1.5.	Revenue from other VAS	4.36	4.7%
1.6.	Other revenue	2.01	2.2%
2	Usage outside Home Service Area		
2.1.	Revenue from outroamers	3.38	3.6%
3	Total revenue from subscribers (1+2)	92.93	100%
4	Net inter-operator settlement charges receivable *	-9.04	
5	Net Revenue (ARPU) per month(3+4)	83.89	

* 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 (₹9.04) accounts for 9.73% of the total revenue from subscribers.

2.8 On an all India average, the overall minutes of usage (MOU) per subscriber per month increased from 428 in QE Jun-17 to 437 in QE Sep-17.

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 and LTE Services in QE Sep-17

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	443	391	833	194	179	374	208	191	399
Circle B	459	382	841	196	226	423	202	230	432
Circle C	503	316	820	222	276	498	228	277	505
Metro	429	350	780	254	184	438	277	205	482
All India	447	372	818	205	214	419	216	221	437

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-17 is 49.4 : 50.6.

2.11 Number of outgoing SMS per subscriber per month declined from 16 in Q.E. Jun-17 to 15 in Q.E. Sep-17. 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 and LTE Services in QE Sep-17

Circle category	Outgoing SMS per subscriber month		
	Postpaid	Prepaid	Blended
Circle A	113	17	22
Circle B	31	12	13
Circle C	22	9	9
Metro	22	9	11
All India	62	13	15

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-17

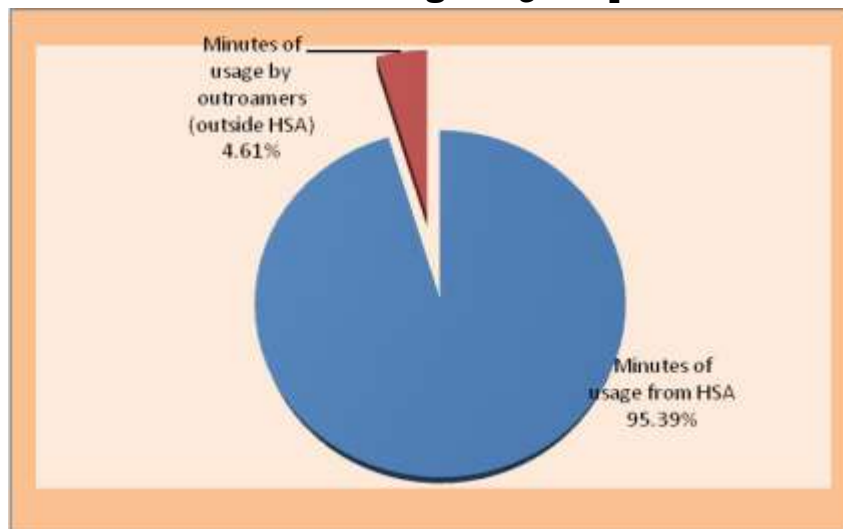
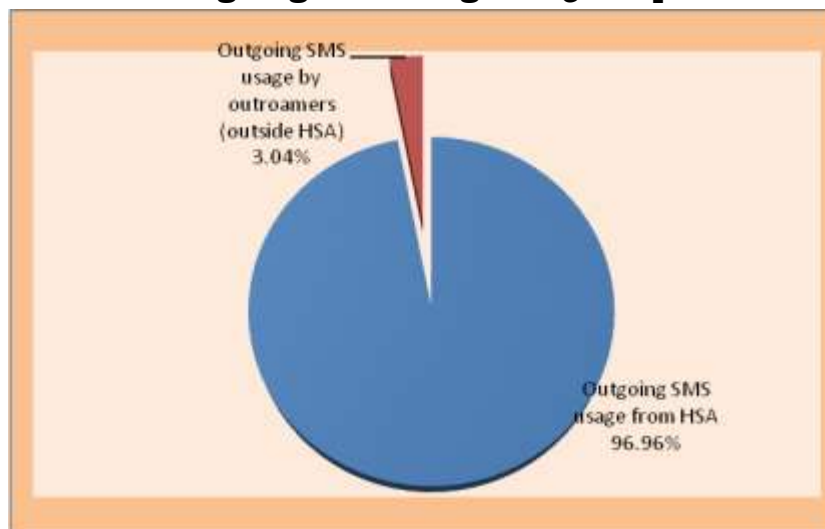


Chart 2.4: Outgoing SMS Usage by Out-roamers as a % of Total No. of Outgoing SMS Usage in QE Sep-17



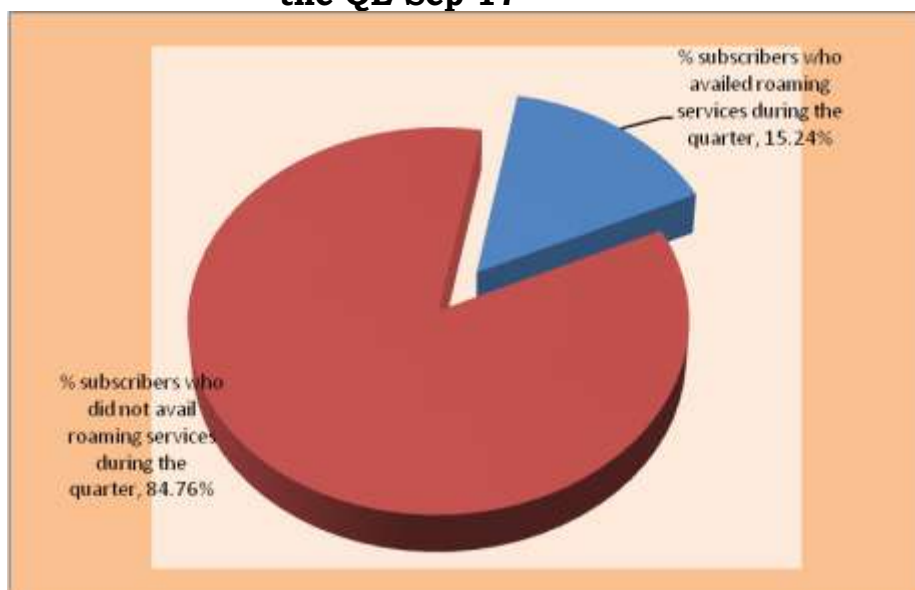
2.12 The following table presents the percentage break-up of outgoing minutes of usage from home service area between various categories of termination networks.

Table 2.6: %Break-up of Outgoing minutes from Home Service Area (HSA) in QE Sep-17

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	1.01	30.38	43.41	0.34	6.95	17.83	0.08
Circle B	0.64	35.72	42.65	0.25	7.23	13.47	0.05
Circle C	0.34	37.36	41.97	0.20	6.47	13.63	0.03
Metros	1.51	16.52	36.54	0.50	17.35	27.42	0.15
All India	0.83	31.75	42.03	0.30	8.29	16.73	0.07

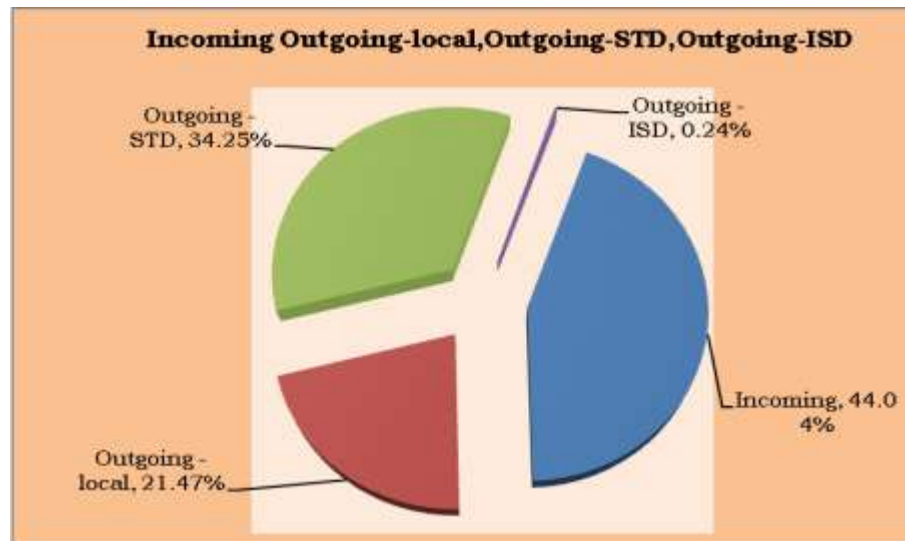
2.13 The chart given below presents the percentage of subscribers who availed roaming services (out-roamers) during the quarter ending Sep-17.

Chart 2.5: % subscribers who availed roaming services during the QE Sep-17



2.14 The usage pattern of out-roamers i.e. usage from outside the home service area shows that incoming minutes accounts for 44.05% of the total minutes of usage by out-roamers in QE Sep-17 as against 45.28% in the previous quarter. The chart given below presents the break-up of minutes of usage of out-roamers during the QE Sep-17.

Chart 2.6: % Break-up of minutes of usage of outroamers (usage from outside the Home Service Area) in QE Sep-17



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 outgo per outgoing minute for usage from Home Service Area (HSA*) as defined below would be a realistic indicator of average tariff.

*Average 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 outgo per outgoing minute from HSA for GSM and LTE Services in QE Sep-17

Circle Category	(₹ per minute)		
	Postpaid	Prepaid	Blended
Circle A	0.40	0.25	0.27
Circle B	0.39	0.22	0.23
Circle C	0.30	0.18	0.19
Metros	0.42	0.18	0.23
All India	0.39	0.22	0.23

2.16 All India average outgo per outgoing minute declined from ₹0.27 in the QE Jun-17 to ₹0.23 in the QE Sep-17.

Table 2.8: Trends of Key Parameters - GSM and LTE Services

Parameter	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17
1. ARPU (₹ Per month)	121	104	83	80	84
3. Average Revenue from data usage per subscriber per month (in ₹)	29	24	19	21	33
3. MOU per subscriber per month	366	360	405	428	437
4. Outgoing MOU per subscriber per month					
4.1 Local (Intra-circle)	140	133	149	160	157
4.2 NLD (inter-circle)	37	36	48	53	59
4.3 ILD	0.30	0.20	0.20	0.20	0.20
5. No. of Outgoing SMS per subscriber per month	19	18	17	16	15
6. Average Outgo per outgoing minute from HSA (in ₹)	0.48	0.44	0.31	0.27	0.23

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

Section B: CDMA - Full Mobility Service

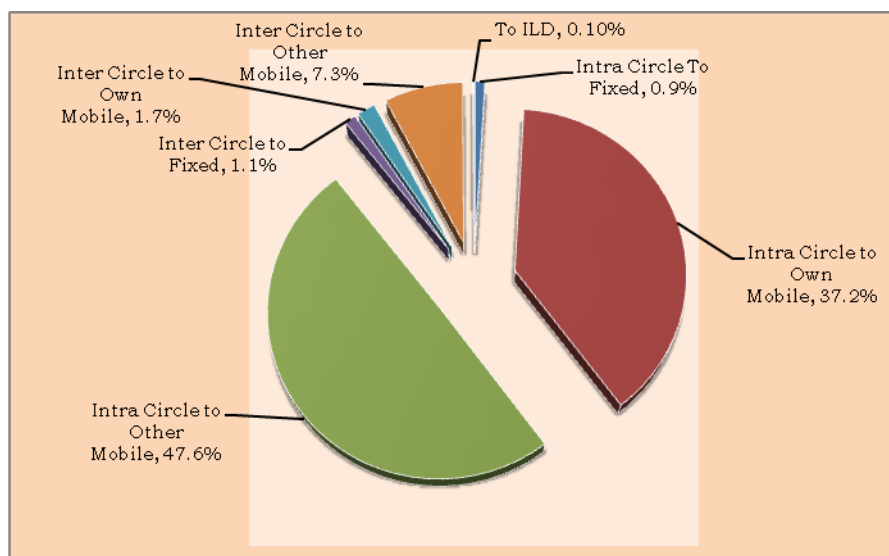
Table 2.9: Key Indicators - CDMA Full Mobility Service

Parameters	QE Sep-17	QE Jun-17	QE Sep-16	QoQ change (%)	YoY change (%)
Subscriber Base (in Millions*)	8.14	8.88	12.94	-8.37	-37.08
Share of Prepaid (%)	88	87	86	1.63	2.54
Incoming MOUs per subscriber per month	123	142	124	-13.26	-0.74
Outgoing MOUs per subscriber per month	83	105	145	-20.87	-42.87
Outgoing SMS per subs per month	1.86	2.18	3.21	-14.30	-41.88
ARPU (₹ per month)	125	124	154	0.61	-18.70

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

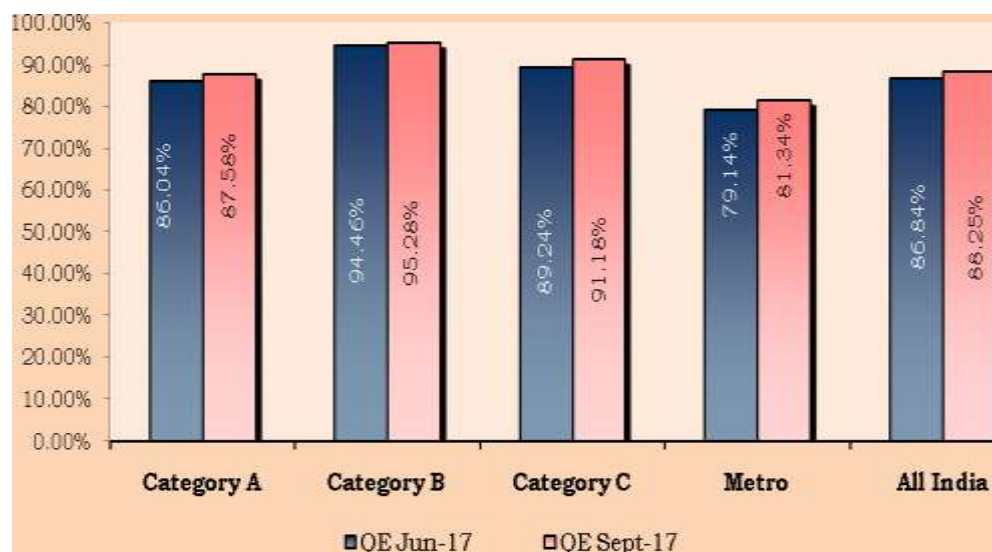
2.18 The following chart depicts % break-up of outgoing minutes from home service area (HSA).

Chart 2.7: % Break-up of Outgoing Minutes from Home Service Area (HSA) - CDMA Full Mobility Service in QE Sep-17



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 increased from 86.84% in QE Jun-17 to 88.25% in QE Sep-17.

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-17

(₹ per month)

Circle category	Postpaid	Prepaid	Blended ARPU
Circle A	584	86	152
Circle B	456	64	84
Circle C	501	72	114
Metro	507	56	145
All India	524	68	125

2.22 The All India blended Average Revenue Per User (ARPU) per month has shown a increased of 0.61% from ₹124 in QE Jun-17 to ₹125 in QE Sep-17.

2.23 ARPU for Prepaid service increased from ₹58 in QE Jun-17 to ₹68 in QE Sep-17. However, ARPU for Postpaid service declined from ₹537 in QE Jun-17 to ₹524 in QE Sep-17.

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	16.90	13.86
1.2	Revenue from Calls	21.79	17.87
1.3	Revenue from SMS#	0.33	0.27
1.4	Revenue from data usage	59.35	48.67
1.5	Revenue from other VAS	0.90	0.74
1.6	Other Revenue#	21.80	17.88
2	Usage Outside Home Service Area		
2.1	Revenue from Out-roamers	0.89	0.73
3	Total Revenue from Subscribers (1+2)	121.95	100
4	Net inter-operator settlement charges receivable*	3.29	
5	Net Revenue (ARPU) (3+4)	125.24	

* Includes Interconnect Usage Charges and roaming settlement charges

2.24 Revenue from data usage per subscriber per month (for usage from HSA) declined from ₹69.37 in QE Mar-17 to ₹59.35 in QE Sep-17.

2.25 The total MOUs per subscriber per month declined by 16.70%, from 247 in QE Jun-17 to 206 in QE Sep-17. Outgoing MOUs declined from 105 in QE Jun-17 to 83 in QE Sep-17, and incoming MOUs also declined from 142 in QE Jun-17 to 123 in QE Sep-17.

2.26 Prepaid MOUs per subscriber per month declined from 256 in QE Jun-17 to 196 in QE Sep-17, however postpaid MOUs per subscriber per month increased from 193 in QE Jun-17 to 223 in QE Sep-17.

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	101	56	157	67	109	176	72	104	176
Circle B	214	88	302	80	123	203	87	133	220
Circle C	213	93	306	61	143	203	76	138	214
Metro	138	99	237	77	130	207	89	128	217
All India	139	84	223	75	122	196	83	123	206

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

Table 2.13 : Outgoing SMS per subscriber per month in QE Sep-17 – CDMA Full Mobility Service

Category	Outgoing SMS per subscriber month		
	Postpaid	Prepaid	Blended
Category A	1	3	2
Category B	1	2	2
Category C	6	2	2
Metro	1	2	2
All India	1	2	2

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-17

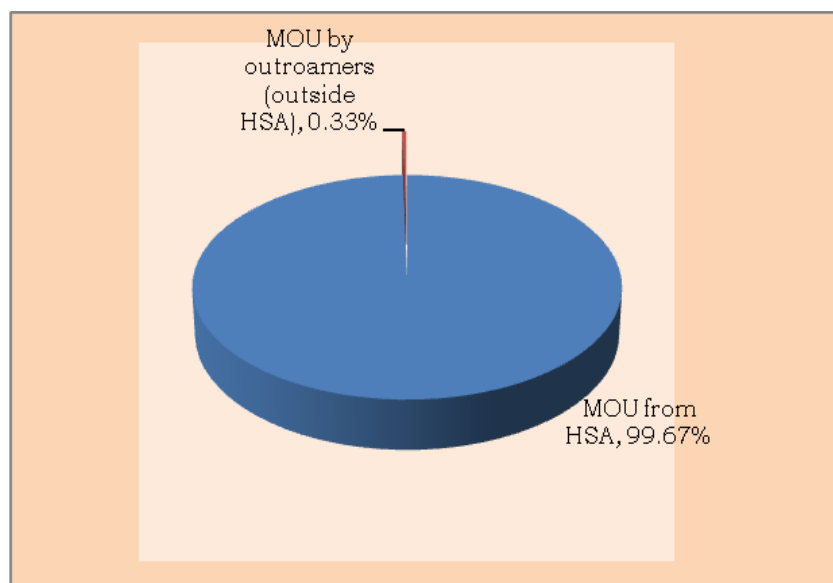


Table 2.14: %Break-up of Outgoing minutes from Home Service Area (HSA) - CDMA Full Mobility Service in QE Sep-17

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	1.02	48.27	43.26	1.06	0.22	1.80	0.02
Circle B	0.40	35.18	56.63	0.71	0.35	3.68	0.18
Circle C	0.39	29.11	51.85	1.33	0.73	7.46	0.02
Metro	1.36	31.73	41.13	1.42	4.26	15.08	0.09
All India	0.90	37.17	47.58	1.07	1.69	7.30	0.10

2.27 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-17

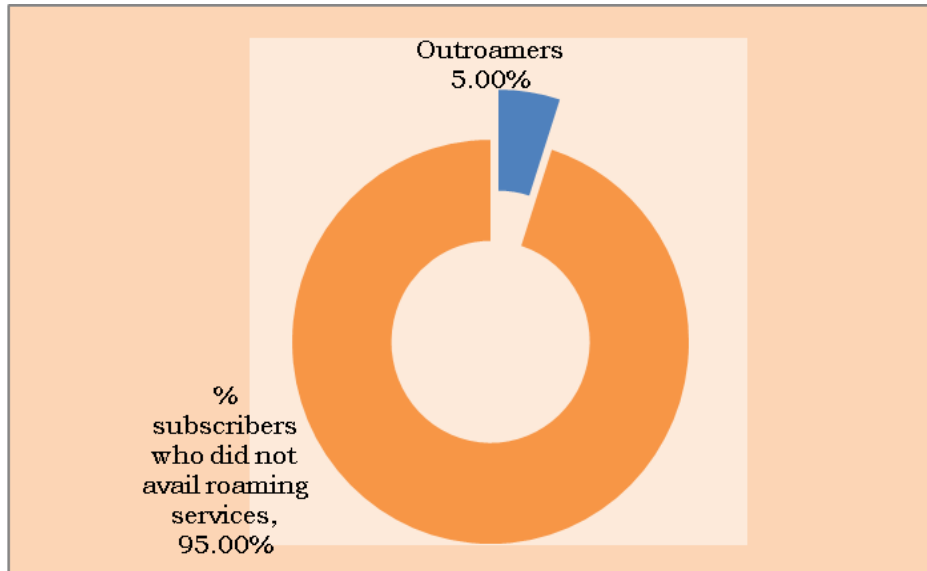


Chart 2.11: Percentage breakup of minutes of usage of Out-roamers (usage from outside the Home Service Area) in QE Sep-17

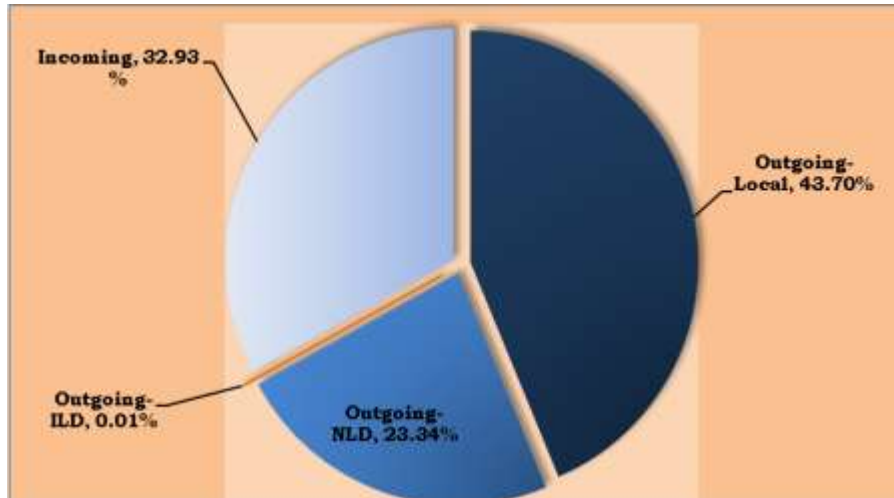


Table 2.15: Average subscriber outgo per outgoing minute from HSA* for CDMA Full Mobility Service in QE Sep-17

	[₹ Per min]		
Circle Category	Postpaid	Prepaid	Blended
Circle A	1.07	0.38	0.50
Circle B	0.50	0.30	0.33
Circle C	0.94	0.43	0.57
Metros	1.00	0.40	0.59
All India	0.91	0.36	0.47

*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-16	Dec-16	Mar-17	Jun-17	Sep-17
1. ARPU (₹ Per month)	154	141	131	124	125
2. Average revenue from data usage per subscriber per month (in ₹)	91	82	75	69	59
3. MOU per subscriber per month	269	255	249	247	206
4. Outgoing MOU per subscriber per month	145	129	112	105	83
5. No. of Outgoing SMS per subscriber per month	3.21	2.89	2.66	2.23	2.17
6. Average subscriber Outgo per outgoing minute from HSA (₹)	0.40	0.41	0.43	0.44	0.47

2.28 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-16 (₹ in Crore)	QE Jun-17 (₹ in Crore)	QE Sep-17 (₹ in Crore)	Q-O-Q % Change	Y-O-Y % Change
Gross Revenue (GR)	71,379	64,889	66,362	2.27	-7.03
Adjusted Gross Revenue (AGR)	50,539	39,778	41,669	4.75	-17.55
Pass Through Charges (GR-AGR)	20,839	25,112	24,693	-1.67	18.49
License Fee	4,091	3,261	3,249	-0.35	-20.57
Spectrum Usage Charges	1,868	1,309	1,256	-4.01	-32.74

3.1 Gross Revenue (GR) quarterly increased by 2.27% in QE Sep-17, however on annual basis, it has declined by 7.03%. Adjusted Gross Revenue (AGR) quarterly increased by 4.75% in the QE Sep-17.

3.2 Pass through charges quarterly declined by 1.67% in the QE Sep-17, however on annual basis, it increased by 18.49%.

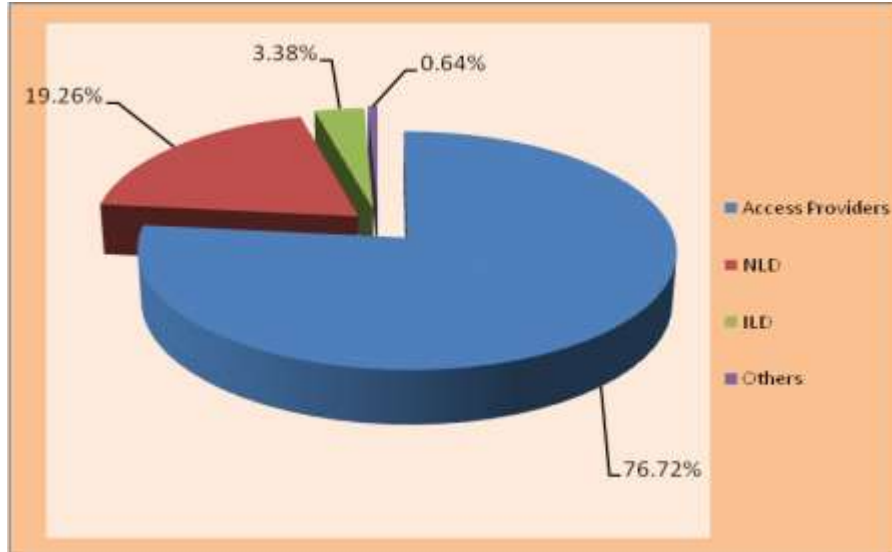
3.3 Pass-through charges as a percentage of Gross Revenue are 37.21% in QE Sep-17 as against 38.70% in the previous quarter.

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	48,166	31,968	2,475	1,253
NLD	10,852	8,027	642	-
ILD	3,536	1,408	113	-
Others	3,807	266	19	4
Total	66,362	41,669	3,249	1,256

Chart 3.1: Composition of Adjusted Gross Revenue



3.4 Access services contributed 76.72% of the total Adjusted Gross Revenue of telecom services. In Access services, Gross Revenue (GR), Adjusted Gross Revenue(AGR) and Pass Through Charges increased by 5.05%, 6.27% and 2.74% respectively however, License Fee and Spectrum Usage Charges(SUC) declined by 0.52% and 4.01% respectively in QE Sep-17.

3.5 Monthly Average Revenue per User (ARPU) for Access Services based on AGR increased from ₹83.41 in Q.E. Jun-17 to ₹88.09 in Q.E. Sep-17.

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-17	QE Jun-17	% Change
Bharti	8846.63	9888.29	-10.53
Vodafone	6304.40	7089.42	-11.07
Idea	5307.81	6160.91	-13.85
Reliance Jio	4273.59	-1036.56	512.29
BSNL	2431.97	3012.73	-19.28
Tata	1665.45	1732.26	-3.86
Aircel	1285.62	1423.58	-9.69
Reliance Com.	827.82	748.08	10.66
Telenor	536.17	585.87	-8.48
MTNL	402.95	375.16	7.41
Sistema Shyam	81.01	119.11	-31.98
Quadrant	4.61	-16.52	127.93
Grand Total (Access)	31968.03	30082.33	6.27

3.6 Public Sector Undertakings' share in the Access AGR of telecom services is 8.87% in the QE Sep-17.

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

Category	AGR of Access Services for QE Sep-17 (in ₹ crore)	%age share of AGR
Metro	4068.28	12.73
A	12605.59	39.43
B	11311.75	35.38
C	3982.42	12.46
Total	31968.03	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			
			Quarter Ending, June, 2017		Quarter Ending, September, 2017	
			Out Of 162 for Network and Out of 167 for Customer (Nos.)	Out Of 162 for Network and Out of 167 for Customer (%)	Out Of 162 for Network and Out of 167 for Customer (Nos.)	Out Of 162 for Network and Out of 167 for Customer (%)
I.	Network Related Parameters					
1	Network Availability					
(i)	BTSs Accumulated downtime (not available for service)	≤ 2%	1	0.62%	1	0.62%
(ii)	Worst affected BTSs due to downtime	≤ 2%	8	4.94%	9	5.56%
2	Connection Establishment (Accessibility)					
(i)	Call Set-up Success Rate (within licensee's own network)	≥ 95%	1	0.62%	2	1.23%
(ii)	SDCCH/ Paging Chl. Congestion	≤ 1%	1	0.62%	2	1.23%
(iii)	TCH Congestion	≤ 2%	3	1.85%	3	1.85%
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%	14	8.64%	20	12.35%
(iii)	Connection with good voice quality	≥ 95%	2	1.23%	2	1.23%
4	Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter)	≤ 0.5%	2	1.23%	0	0

S. No.	Parameters	Bench mark	No. of CMTS Licensees not Meeting the Benchmarks			
			Quarter Ending, June, 2017		Quarter Ending, September, 2017	
			Out Of 162 for Network and Out of 167 for Customer (Nos.)	Out Of 162 for Network and Out of 167 for Customer (%)	Out Of 162 for Network and Out of 167 for Customer (Nos.)	Out Of 162 for Network and Out of 167 for Customer (%)
II.	Customer Service Quality Parameters					
5	Metering and Billing					
(i)	Metering and billing credibility - post paid	≤ 0.1%	1	0.60%	11	6.59%
(ii)	Metering and billing credibility - pre paid	≤ 0.1%	10	5.99%	6	3.59%
(iii)	Resolution of billing/charging/ validity complaints	98% within 4 weeks	0	0	0	0
	Resolution of billing/charging/ validity complaints	100% within 6 weeks	2	1.20%	1	0.60%
(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	2	1.20%	0	0
6	Response time to the customer for assistance					
(i)	Accessibility of call centre/ customer care	≥ 95%	1	0.60%	7	4.19%
(ii)	%age of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	27	16.17%	41	24.55%
7	Termination / closure of service					
(i)	%age requests for Termination / Closure of service complied within 7 days	100% within 7 days	9	5.39%	17	10.18%
(ii)	Time taken for refund of deposits after closures	100% within 60 days	24	14.37%	25	14.97%

- 4.1 The performance has improved in this quarter as compared to the previous quarter in respect of the following parameters:-
- a. Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark)
 - b. Metering and billing credibility- pre-paid
 - c. Resolution of billing/ charging/ validity complaints (100% within 6 weeks)
 - d. Period of applying credit/ waiver/adjustment to customer's account from the date of resolution of complaints
- 4.2 The performance has deteriorated in this quarter as compared to the previous quarter in respect of the following parameters:-
- a. Worst affected BTSs due to downtime
 - b. Call Set-up Success Rate (within licensee's own network)
 - c. SDCCH/ Paging Chl. Congestion
 - d. Worst affected cells having more than 3% TCH drop (call drop) rate
 - e. Metering and billing credibility - post paid
 - f. Accessibility of call centre/ customer care
 - 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

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

Parameter	Bench mark	Service Provider	Service Area	Performance
BTSs Accumulated downtime (not available for service)(%age)	$\leq 2\%$	AIRCEL	North East	4.21
Worst affected BTSs due to downtime (%age)	$\leq 2\%$	AIRCEL	Assam	13.14
			J & K	3.33
			North East	30.06
		RCOM GSM	J & K	2.05
			Tamil Nadu +Chennai	4.34
			UP-East	2.24
		RTL	Kolkata	4.09
			Madhya Pradesh	2.10
TTL GSM	Bihar	2.47		
Call Set-up Success Rate (within licensee's own network)	$\geq 95\%$	AIRCEL	Assam	86.98
		TTL CDMA	Punjab	90.08
SDCCH/ Paging Chl. Congestion (%age)	$\leq 1\%$	AIRCEL	Assam	1.05
		TTL GSM	Bihar	1.09
TCH Congestion (%age)	$\leq 2\%$	AIRCEL	Assam	9.89
			Bihar	4.19
		TTL CDMA	Punjab	8.52
Worst affected cells having more than 3% TCH drop (call drop) rate (%age)	$\leq 3\%$	AIRCEL	Assam	15.97
			Bihar	6.22
			Delhi	5.01
			H.P.	10.18
			J & K	7.83
			Kerala	3.78
			Mumbai	4.15
			North East	19.73
			Orissa	5.75
			Rajasthan	3.34
			Tamil Nadu	4.38
			West Bengal	9.84
		BSNL	West Bengal	3.21
		TELENOR	Bihar	3.27
			Maharashtra	3.22
			UP-East	4.10
		TTL CDMA	Punjab	3.12
Rajasthan	3.90			
TTL GSM	Bihar	3.07		
VODAFONE	Madhya Pradesh	3.72		

Parameter	Bench mark	Service Provider	Service Area	Performance
Connection with good voice quality	≥ 95%	AIRCEL	Assam	93.16
			North East	94.57
Metering and billing credibility - post paid	≤ 0.1%	AIRTEL	Delhi	0.14
			Gujarat	0.20
			Haryana	0.14
			J & K	0.22
			Madhya Pradesh	0.19
			Maharashtra	0.16
			Mumbai	0.18
		IDEA	Assam	0.20
			North East	0.13
		VODAFONE	Delhi	0.13
Mumbai	0.11			
Metering and billing credibility - pre paid	≤ 0.1%	AIRTEL	Assam	0.15
			J & K	0.17
		IDEA	J & K	0.12
		RCOM GSM	Gujarat	0.20
		VODAFONE	Mumbai	0.18
West Bengal	0.12			
Resolution of billing/charging complaints	100% within 6 weeks	IDEA	Delhi	99.99
Accessibility of call centre/ customer care	≥ 95%	AIRCEL	Assam	92.31
			Gujarat	93.94
		AIRTEL	Assam	94.82
			Punjab	88.55
		IDEA	Assam	93.94
			Gujarat	93.48
Mumbai	94.18			
Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	AIRTEL	Assam	93.83
			Delhi	94.15
			Gujarat	94.65
			Punjab	94.96
		IDEA	Assam	94.51
			Orissa	91.75
			West Bengal	86.33
		RCOM GSM	Gujarat	82.68
			Haryana	86.99
			J & K	89.13
Maharashtra	71.23			
MUMBAI	69.95			

Parameter	Bench mark	Service Provider	Service Area	Performance
Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%		Punjab	86.27
			Rajasthan	93.86
			UP-East	89.86
			UP-West	93.93
		RTL	Bihar	88.68
			H.P.	90.71
			Kolkata	86.10
			North East	92.02
			Orissa	81.97
			West Bengal	84.06
		TTL CDMA	Andhra Pradesh	94.37
			Karnataka	94.01
			Kerala	90.21
			Tamil Nadu	83.03
			UP-West	93.08
		TTL GSM	Andhra Pradesh	93.14
			Gujarat	92.90
			Haryana	94.40
			Karnataka	94.68
			Kerala	93.07
			Madhya Pradesh	93.42
			Orissa	94.75
			Tamil Nadu	91.97
UP-East	94.24			
UP-West	94.81			
TTML GSM	Maharashtra	94.90		
VODAFONE	Delhi	90.24		
	Haryana	93.37		
	Orissa	94.05		
%age requests for Termination / Closure of service complied within 7 days	100% within 7 days	AIRCEL	Andhra Pradesh	98.18
			Assam	94.87
			J & K	88.88
			Karnataka	89.92
			Kolkata	96.81
			Mumbai	98.19
			North East	99.53
			Orissa	98.73
			Punjab	98.63
			Tamil Nadu	97.54
			UP-East	94.74

Parameter	Bench mark	Service Provider	Service Area	Performance
		IDEA	Delhi	99.92
			Kolkata	99.96
			Madhya Pradesh	99.78
			Tamilnadu	97.84
		VODAFONE	Madhya Pradesh	97.91
			Maharashtra	98.86
Time taken for refund of deposits after closures	100% within 60 days	IDEA	Tamilnadu	78.50
		MTNL	Mumbai	34.89
		RCOM GSM	Andhra Pradesh	0.00
			Delhi	0.00
			Gujarat	0.00
			Haryana	0.00
			J & K	0.00
			Karnataka	0.00
			Kerala	0.00
			Maharashtra	0.00
			Mumbai	0.00
			Punjab	0.00
		RCOM GSM	Rajasthan	0.00
			Tamil Nadu +Chennai	0.00
			UP-East	0.00
			UP-West	0.00
			RTL	Assam
Bihar	0.00			
Himachal Pradesh	0.00			
Kolkata	0.00			
Madhya Pradesh	0.00			
North East	0.00			
Orissa	0.00			
West Bengal	0.00			
TTL GSM	Andhra Pradesh	99.43		
Time taken for refund of deposits after closures	100% within 60 days			

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			
				Quarter Ending, June 2017		Quarter Ending, September 2017	
				Out of 111 (in %)	Out of 111 (in %)	Out Of 112 (Nos.)	Out of 112 (in %)
1	Network Availability	BTSs and Node-B's Accumulated downtime (not available for service) (%age)	≤ 2%	2	1.80%	2	1.79%
		Worst affected BTSs and Node-B's due to downtime (%age)	≤ 2%	5	4.50%	5	4.46%
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%	0	0.00%	1	0.89%
		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%	11	9.91%	9	8.04%
		Connections with good voice quality and Circuit Switch Voice Quality (CSV quality)	≥ 95%	0	0.00%	0	0.00%
4	Point of Interconnection	Point of Interconnection (POI) Congestion	≤ 0.5%	0	0.00%	0	0.00%

4.5 The performance has improved 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) and Circuit Switched Voice Drop Rate:-CBBH

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

- a. SDCCH/Paging Channel and RRC Congestion (%age)

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

Parameter	Benchmark	Service Provider	Service Area	Performance
BTs and Node-B's Accumulated downtime (not available for service) (%age)	≤ 2%	Aircel	Assam	2.61
			North East	5.64
Worst affected BTs and Node B's due to downtime (%age)	≤ 2%	Aircel	Assam	19.00
			Jammu & Kashmir	3.98
			North East	33.38
		RTL	Assam	2.49
			North East	2.35
SDCCH/Paging Channel and RRC Congestion (%age)	≤ 1%	Aircel	Assam	4.45
Worst affected cells having more than 3% TCH drop (call drop) and Circuit Switched Voice Drop Rate:-CBBH	≤ 3%	Aircel	Assam	6.43
			Bihar	4.90
			Jammu & Kashmir	12.42
			North East	11.68
			Orissa	7.98
			Tamil Nadu	4.84
			West Bengal	4.94
		BSNL	WB	3.92
		RCOM GSM	DELHI	3.52

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			
			QE June, 2017		QE September, 2017	
			Out of 103 (In Nos.)	Out of 103 (In %age)	Out of 103 (In Nos.)	Out of 103 (In %age)
(i)	Fault incidences per 100 subs/month	≤ 7	0	0%	1	1%
(ii)	% Fault repaired by next working day for urban areas	$\geq 85\%$	1	1%	4	4%
	% Fault repaired within 5 days (for urban areas)	$\geq 100\%$	2	2%	2	2%
(iii)	% Fault repaired by next working day for rural and hilly areas	$\geq 75\%$	0	0%	0	0%
	% Fault repaired within 7 days (for rural and hilly areas)	$\geq 100\%$	0	0%	0	0%
(iv)	MTTR	$\leq 10\text{Hs}$	0	0%	3	3%
(v)	Point of Interconnection (POI) Congestion (No. of PoIs not meeting benchmark)	$\leq 0.5\%$	0	0%	0	0%
(vi)	Metering and Billing credibility - post-paid	$\leq 0.1\%$	1	1%	1	1%
	Metering and Billing credibility -pre-paid	$\leq 0.1\%$	0	0%	0	0%
(vii)	Resolution of billing/charging /Credit & validity complaints	98% within 4 weeks	0	0%	0	0%
	Resolution of billing/charging / Credit & validity complaints	100% within 6 weeks	0	0%	0	0%
(viii)	Period of applying credit /waiver/adjustment to customer's	1 week of resolution of complaint	0	0%	0	0%

S. No.	Parameters	Benchmark	No of license areas where operators not meeting the benchmarks			
			QE June, 2017		QE September, 2017	
			Out of 103 (In Nos.)	Out of 103 (In %age)	Out of 103 (In Nos.)	Out of 103 (In %age)
(ix)	Accessibility of call centre/ customer care	≥ 95%	0	0%	0	0%
	%age of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	3	3%	20	19%
(x)	%age of request for Termination / closure of service complied within 7 days	100% within 7 days	5	5%	5	5%
(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” due to not providing pre-paid service in Basic (Wire line) service.

4.7 It is observed that the performance has no improvement in this quarter as compared to the previous quarter

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 to Repair (MTTR)
- d. %age of calls answered by the operators (voice to voice) within 90 seconds.

**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	TATA	AP	7.12
%age of fault repaired by next working days (for urban areas)	$\geq 85\%$	MTNL	DEL	84.80%
			GJ	73.82%
		Tata	KR	82.44%
			Mum	80.69%
%age of fault repaired within 5 days (for urban areas)	$\geq 100\%$	MTNL	DEL	98.06%
			MUM	99.86%
Mean Time to Repair(MTTR)	≤ 10 Hrs	Tata	GJ	17.38
			KR	10.93
			MUM	12.82
Metering and billing credibility – Post paid	$\leq 0.1\%$	Bharti Airtel Ltd.	TN	0.14%
Response time to the customer for assistance - Percentage of calls answered by the operators (voice to voice) within 90 seconds	$\geq 95\%$	Bharti Airtel Ltd.	DL	94%
			KR	94%
			KOL	94%
			MP	94%
			MH	92%
			Mum	92%
		TATA	AP	90.93%
			BH	75.90%
			DL	76.49%
			GJ	78.23%
			HR	86.79%
			KTK	75.46%
			KR	79.63%
			MP	79.65%
			MUM	84.50%
			MH	75.19%
			PB	79.48%
			RAJ	76.21%
			TN	75.49%
WB	73.52%			
%age requests for termination /Closure of service complied within 7 days	100% within 7 days	MTNL	MUM	99.97%
			AP	99.83%
		TATA	DL	99.92%
			GJ	99.86%
			MUM	99.97%

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 136 Internet Service Providers (ISPs) providing broadband (wireline) service at the end of September, 2017. Out of these 136 ISPs, 41 Service Providers are having broadband subscriber base >10,000 and market share of these 41 SPs is 98.83% of total subscriber base. This report covers performance of top 41 broadband Service Providers vis-à-vis the QoS benchmarks prescribed by TRAI, for the QE September, 2017.

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

S. No.	Parameter	Benchmark	No. of Licensees not meeting the Benchmarks			
			Quarter Ending June, 2017		Quarter Ending September, 2017	
			Out of 69(Nos.)	Out of 69(%)	Out of 64(Nos.)	Out of 64(%)
1	Service Provisioning	100% in =<15 working days				
1.2	%age of connections provided within 15 days of registration of demand	100%	0	0.00%	1	1.56%
2	Faults Repair					
2.2	% of faults repaired by next working day (>90%)	>90%	2	2.90%	4	6.25%
2.3	% of faults repaired within 3 working day	=>99%	3	4.35%	3	4.69%
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	0	0.00%	0	0.00%
3.5	%age of cases to whom refund of deposits is made within 60 days of closures	100% within 60 days	1	1.45%	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%	1	1.45%	1	1.56%

S. No.	Parameter	Benchmark	No. of Licensees not meeting the Benchmarks			
			Quarter Ending June, 2017		Quarter Ending September, 2017	
			Out of 69(Nos.)	Out of 69(%)	Out of 64(Nos.)	Out of 64(%)
4.3	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	0	0.00%	4	6.25%
5	Bandwidth utilisation/ throughput					
5.2	No. of Intra network links having Bandwidth utilisation >90% during peak hours (TCBH)	0	1	1.45%	0	0.00%
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%	1	1.45%	0	0.00%
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%	1	1.56%
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%

Note: M/s Home Systems Pvt. Ltd and M/s IKF Technologies Ltd have not submitted PMR for the quarter ending September, 2017.

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		
1.2	%age of connections provided within 15 days of registration of demand	100%	Hathway- Madhya Pradesh (99.58%)
2	Faults Repair		
2.2	% of faults repaired by next working day (>90%)	>90%	MTNL- Delhi & Mumbai (83.41%), Atria Convergence - All India (88.53%) TTSL- All India (79.43%) TATA (TTML) - Maharashtra & Goa (75.90%)
2.3	% of faults repaired within 3 working day	=>99%	MTNL- Delhi & Mumbai (94.66%), TTSL- All India (90.85%) TATA (TTML) - Maharashtra & Goa (89.50%)
4	Response Time to the Customer for assistance		
4.2	%age of calls answered by operator (Voice to voice) within 60 sec	>60%	Atria Convergence - All India (49.00%)
	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	Atria Convergence - All India (63.00%), Citycom - All India (77.70%) Tata (TTSL) - All India (78.86%), Tata (TTML) - All India (73.10%)
7	Packet Loss		
	Packet loss (for wired broadband access) in %age	0	Hathway - Kolkata (1.39%)

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

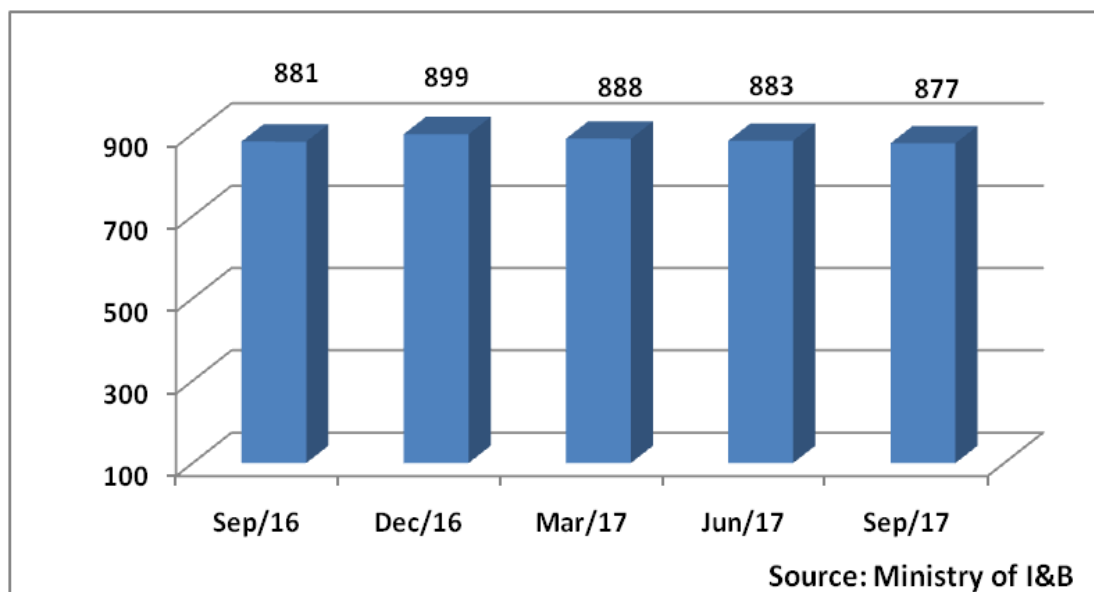
Table 5.1: Key Parameters - Broadcasting & Cable Services

S.No	Parameter	QE Jun-17	QE Sep-17
1	Number of Private satellite TV channels permitted by the Ministry of I&B for uplinking only/ downlinking / uplinking	883	877
2	Number of Pay TV Channels	293	300
3	Number of FM Radio Stations (excluding All India Radio)	310	322
4	Private DTH Operators	6	6
5	Number of Active DTH Subscribers	65.31 Million	66.09 Million
6	No. of community radio stations licenced (GOPA signed)	275	280
7	Operational community radio stations	207	210

A. Satellite TV Channels

5.1 A total of 877 private satellite TV channels have been permitted by the Ministry of Information and Broadcasting (MIB) for uplinking only/ downlinking / uplinking, as on 30th September, 2017.

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



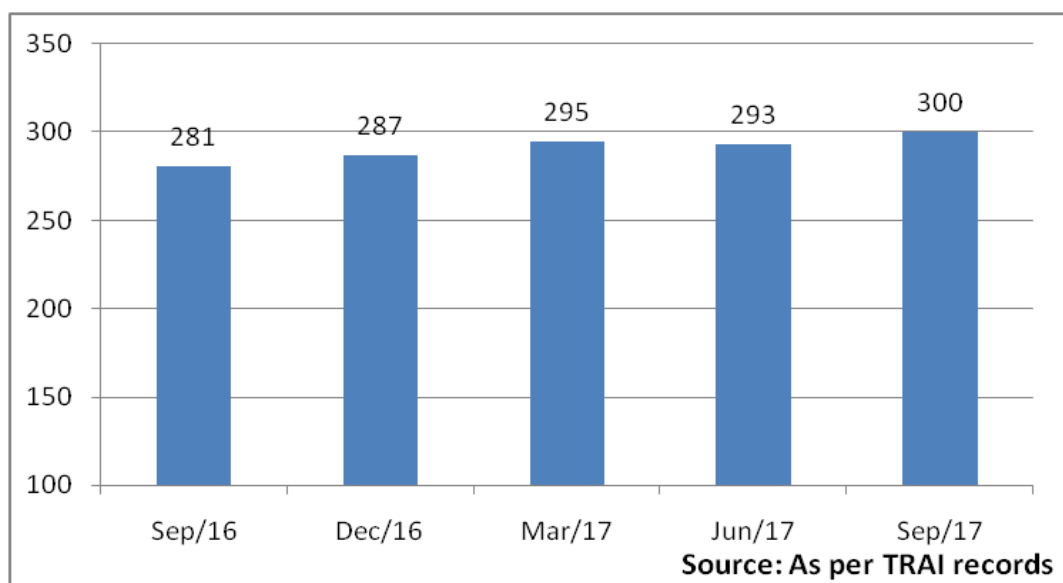
B. Pay TV Channels

5.2 During the quarter ending Sep-17, there were 300 pay channels as reported by 48 broadcasters as compared to 293 pay channels reported in the previous quarter. These 300 pay channels include 215 SD pay TV channels and 85 HD Pay TV channels. The list of Pay TV Channels is placed at **Annexure-5.1**.

5.3 During the quarter ending Sep-17, as per the reporting, no pay channel was converted from Pay to FTA or vice versa. One pay channel namely “Da Vinci Learning” was reported to be discontinued. Eight new pay TV channels were commenced as mentioned below:

S.No	Name of the Broadcaster	Channel's name
1	M/s Zee Media Corporation Limited	Zee 24 Katak
2	M/s Zee Media Corporation Limited	Zee Salaam
3	M/s Living Entertainment Enterprises Pvt Ltd	Living Foodz HD
4	M/s Zee Entertainment Enterprises Limited	& Prive HD
5	M/s Viacom 18 Media Pvt Ltd	NXT
6	M/s Asianet Communications Limited	Star Suvarna HD
7	M/s Sony Pictures Networks India Pvt Limited	TEN 2 HD
8	M/s Sony Pictures Networks India Pvt Limited	TEN 3 HD

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



C. Cable TV Sector

5.5 Digitization, with addressability, of cable TV sector has been executed. 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 as on 30.09.2017 are as under:-

Areas served by Digital Addressable Systems (DAS)

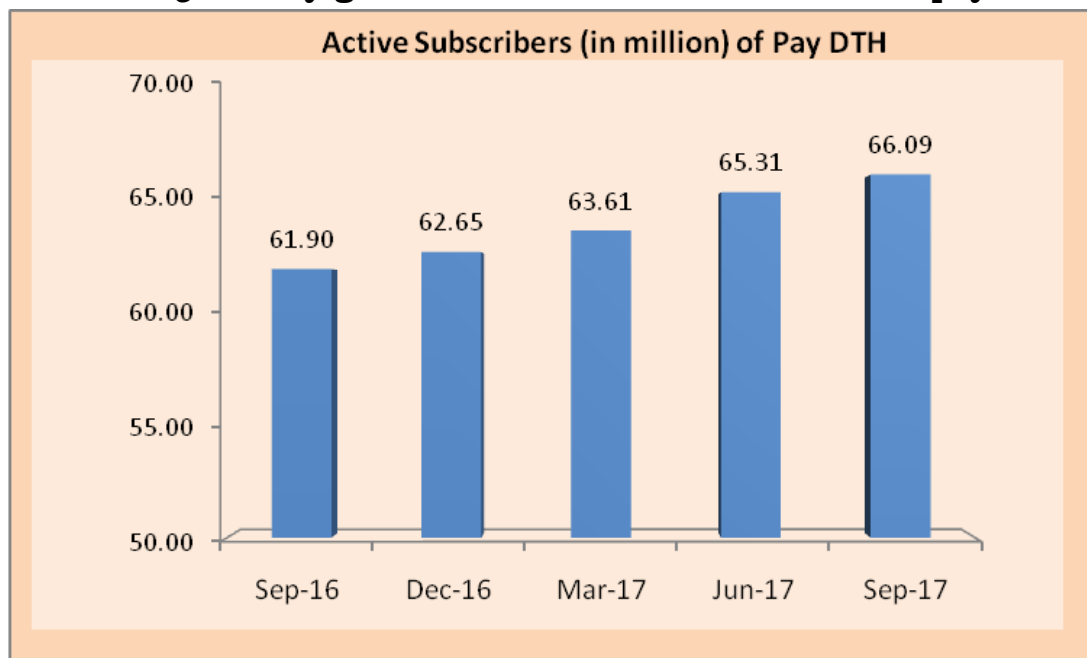
Particulars	MSO	Number
Maximum number of TV channels (FTA+Pay+Local) carried	GTPL, Hathway Pivate Limited	433
Minimum of TV channels (FTA+Pay+Local) carried	Digicable Network India Private Limited	261
Maximum number of FTA channels carried	Siti Cable Network Limited	185
Maximum number of Pay channels carried	GTPL, Hathway Pivate Limited	244
Maximum number of Local channels carried	M/s Fastway Transmission Pvt Limited and Hathway Sukhamrit Cable & Datacom Pvt Ltd	86

D. Direct-to-Home (DTH) Sector

5.8 Since its introduction in the year 2003, Indian DTH service has displayed a phenomenal growth. DTH has attained net pay active subscriber base of around 66.09 million at the end of Sep-17. This is besides the viewership of the free DTH services of Doordarshan.

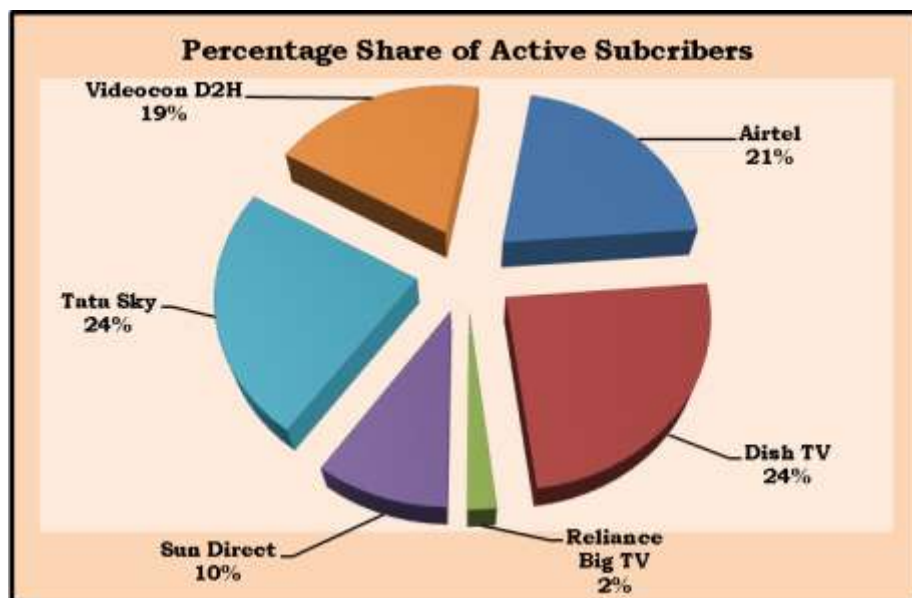
5.9 As on Sep-17, there are 6 pay DTH service providers in the country. Active subscriber base increased from 65.31 million in QE Jun-17 to 66.09 million in QE Sep-17. Quarterly growth in the DTH sector in terms of the net active subscriber base during the quarter is depicted in the following chart.

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



5.10 Dish TV and Tata Sky are the market leader with 24% of market share of each in term of active subscriber base among all 6 private DTH operators. Market Share of DTH operators in terms of the percentage of their net active subscriber base is depicted in the following chart.

Chart 5.4 : Market share of DTH Operators



5.11 As reported by Pay Direct to Home (DTH) operator, details about number of reported channels being carried by the DTH operators on their platforms as on 30.09.2017 are as under:-

Particulars	DTH Operator	Number
Maximum number of TV channels (FTA+Pay) carried	M/s Tata Sky Ltd	599
Minimum of TV channels (FTA+Pay) carried	M/s Sun Direct Pvt Ltd	272
Maximum number of FTA channels carried	M/s Tata Sky Ltd	276
Maximum number of Pay channels carried	M/s Tata Sky Ltd	323

E. FM Radio Services

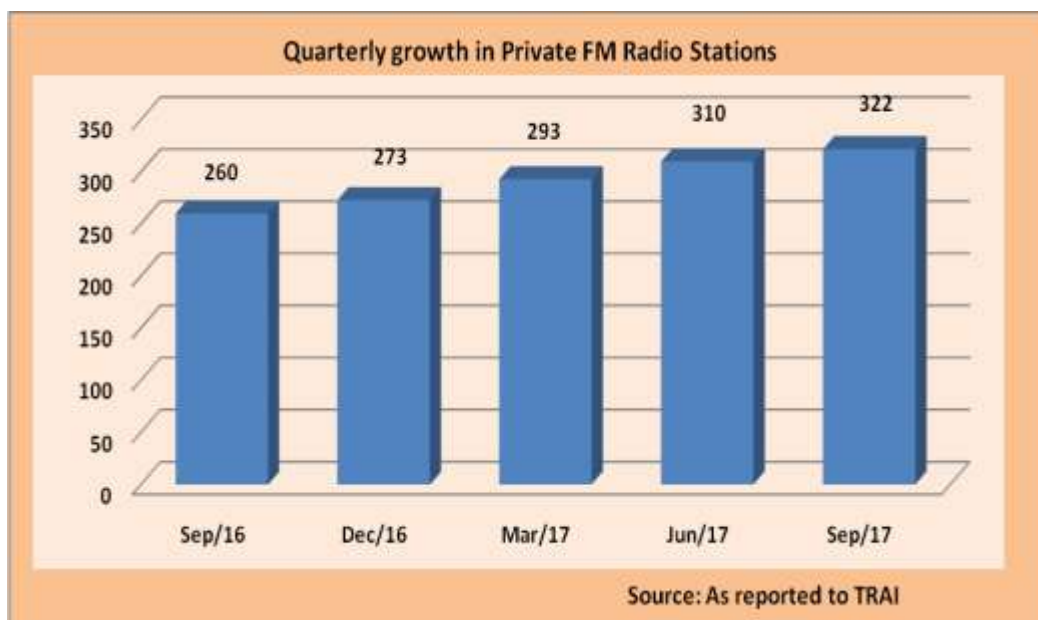
5.12 Apart from the radio Stations operated by All India Radio, Prasar Bharati – a public broadcaster, as on 30th September 2017, there are 322 operational private FM Radio stations in 86 existing cities with operational 34 FM Radio Operators as compared to 310 private FM Radio Stations in 86 cities with operational 33 FM Radio Operators in the previous quarter.

5.13 According to the reporting of advertisement revenue done by the 33 FM Radio Service Providers, it has emerged that during the quarter ending 30th September 2017, 12 new private FM Radio Stations have become operational. The details are as under:-

S.No	Name of FM Radio Operator	No of stations	Name of the cities
1	Entertainment Network (I) Limited (existing operator)	02	1) Jammu 2) Kozhikod
2	Rajasthan Patrika Private Limited (existing operator)	08	1) Agra 2) Allahabad 3) Bareilly 4) Bikaner 5) Gorakhpur 6) Jalgaon 7) Jhansi 8) Solapur
3	Abhijit Realtors & Infra P Limited (New Operator)	02	1) Bilaspur 2) Akola
	Total	12	

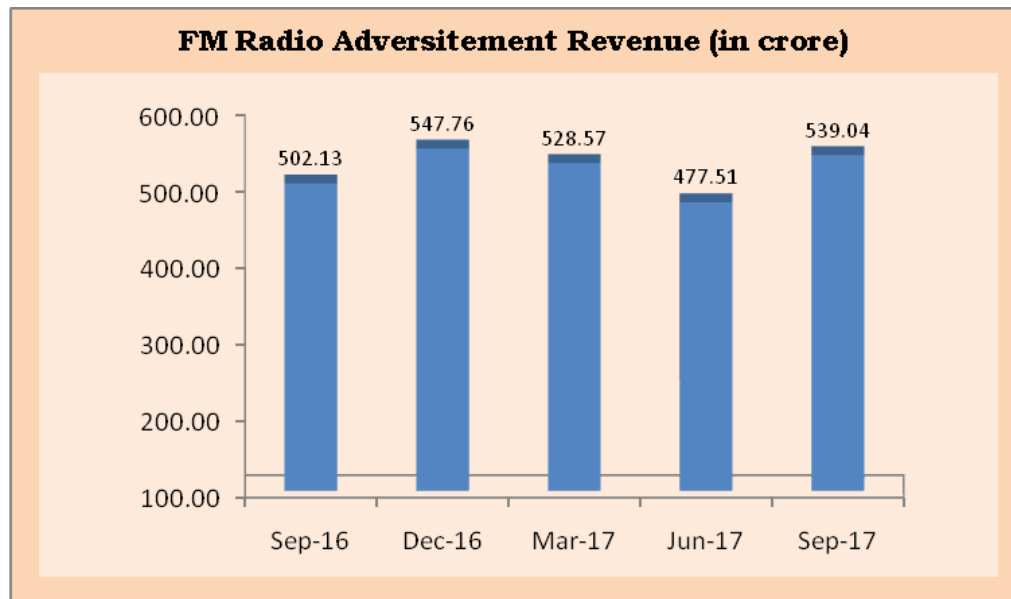
5.14 A list of 86 existing cities with operational FM radio channels is placed at Annexure 5.3.

Chart 5.5 : Quarterly growth in private FM Radio stations



5.15 The reported advertisement revenue during the quarter ending Sep-17 in respect of 322 private FM Radio stations is Rs.539.04 crores as against Rs.477.51 crores in respect of 310 private FM Radio stations for the previous quarter. The following chart shows the details of Advertisement Revenue submitted by the FM Radio service providers to TRAI.

Chart 5.6 : Comparative position in FM Radio Advertisement Revenue



F. Community Radio

5.16 As on 30th September 2017, out of the 280 licenses issued (GOPA Signed) for setting up of Community Radio Stations (CRS), 210 stations are already operational. The quarterly growth in the number of community radio stations is depicted in the chart below.

Chart 5.7 : Quarterly Growth in number of Community Radio Stations

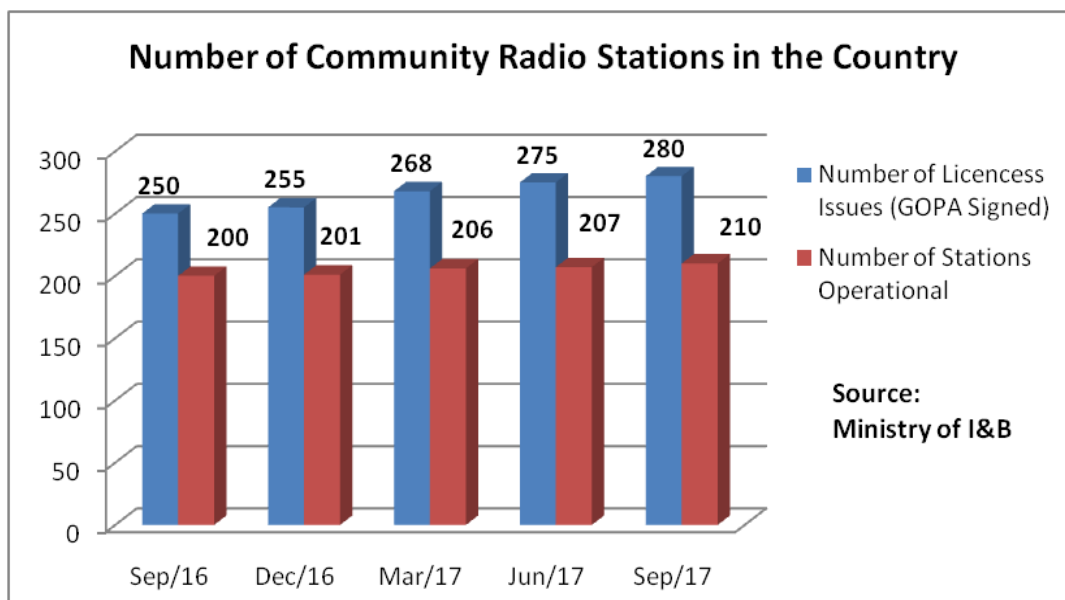


Table 5.2 : Number of application received/Letters of Intent issued/ Licenses issued in respect of Community Radio Stations

Sl. No.	Items	As on 30.09.2017
1	Total No. of Applications Received	2,115
2	No. of Letters of Intent (LOIs) issued	562
3	No. of Applications rejected	1,129
4	No. of Licenses issued (GOPA signed)	280
5	No. of Stations Operational	210

Source: Ministry of Information & Broadcasting (MIB)

Annexures

Annexure 1.1: Wireless Subscriber Base

Service Area	Vodafone (GSM)		Bharti (GSM)		Idea (GSM)		Aircel (GSM)		Reliance (GSM)	
	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17
Andhra Pradesh	6,919,989	6,753,714	26,561,927	26,656,836	17,331,094	16,517,052	2,626,198	2,569,213	3,539,313	3,282,701
Assam	3,915,440	3,762,838	6,624,242	6,643,180	1,282,852	1,164,256	5,884,454	5,891,209	1,035,797	850,144
Bihar	9,923,602	9,398,899	31,421,128	31,003,522	12,810,393	12,028,613	7,613,870	7,559,227	3,066,040	2,500,183
Delhi	11,010,985	11,086,576	11,879,196	12,192,751	6,520,788	6,518,715	6,929,408	6,876,667	5,544,923	5,225,300
Gujarat	20,251,177	20,213,238	9,207,176	9,371,440	13,032,329	12,789,920	17,063	17,005	5,385,297	1,021,116
Haryana	6,144,554	5,974,021	3,626,781	3,636,294	5,178,273	4,823,039	3,092	3,092	1,445,274	1,244,181
Himachal Pradesh	712,266	625,529	3,068,332	3,105,098	822,480	804,733	1,084,516	1,043,503	1,476,448	1,452,766
Jammu & Kashmir	1,017,708	916,941	3,810,968	3,818,739	681,045	609,990	3,124,070	3,273,367	836,663	814,284
Karnataka	7,723,097	7,636,144	22,644,710	23,399,788	9,492,765	9,151,098	3,411,987	3,182,214	5,289,568	5,030,050
Kerala	7,698,705	7,801,358	4,609,417	4,767,107	11,098,812	11,375,246	360,447	338,076	1,221,801	1,180,359
Madhya Pradesh	6,745,400	6,430,131	14,335,261	14,109,599	24,418,067	24,187,200	20,694	20,623	9,019,052	8,634,119
Maharashtra	20,005,482	19,430,890	15,086,592	14,579,113	27,242,171	27,147,341	2,360,644	2,253,416	3,605,082	3,317,012
Mumbai	8,937,828	8,954,979	6,531,587	7,089,123	4,282,973	4,251,906	2,885,166	2,686,544	4,748,797	4,241,048
North East	1,602,656	1,567,287	4,382,519	4,435,501	564,185	507,184	3,415,817	3,445,833	238,183	212,125
Orissa	4,628,339	4,289,238	11,792,517	11,796,328	1,904,961	1,754,886	4,484,570	4,237,088	2,119,436	2,013,914
Punjab	5,461,780	5,064,811	9,278,084	9,382,768	7,193,939	7,068,108	1,112,325	1,103,195	1,699,414	1,506,306
Rajasthan	12,267,926	11,497,700	21,377,158	21,263,496	8,308,532	7,723,296	6,617,914	6,518,691	5,497,695	5,320,052
Tamil Nadu (incl. Chennai)	16,347,360	16,177,171	18,655,505	19,240,750	6,063,902	5,863,207	21,132,128	20,852,231	5,595,869	5,327,780
UP(E)	21,497,341	21,389,366	24,686,410	24,598,194	12,629,155	11,767,665	6,779,256	6,595,444	7,640,322	7,027,296
UP(W)	12,675,462	12,179,223	9,169,627	8,992,267	16,590,969	15,902,510	879,065	866,583	5,444,410	5,259,290
Kolkata	5,791,492	5,697,018	5,105,001	5,214,089	2,593,244	2,430,737	4,423,177	4,361,550	3,823,230	3,729,489
West Bengal	20,660,773	20,596,943	16,793,179	16,751,486	6,235,360	5,768,462	5,157,543	5,057,207	3,063,833	2,974,504
Total	211,939,362	207,444,015	280,647,317	282,047,469	196,278,289	190,155,164	90,323,404	88,751,978	81,336,447	72,164,019

Annexure 1.1 (contd.)

Service Area	Tata (GSM)		Tata (CDMA)		BSNL (GSM)		BSNL (CDMA)		MTNL (GSM)	
	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17
Andhra Pradesh	3,004,835	3,048,461	448,360	444,556	9,985,685	10,023,581	15,114	13,404		
Assam	-	-	-	-	1,470,169	1,492,076	63,552	63,033		
Bihar	908,724	914,224	271,317	236,676	4,042,618	3,997,238	-	-		
Delhi	-	-	1,470,447	1,424,478	-	-	-	-	2,320,627	2,312,983
Gujarat	2,005,903	2,243,524	202,173	196,255	4,940,057	5,229,730	34,589	31,980		
Haryana	1,997,568	2,053,825	120,743	81,005	3,991,617	4,061,981	3,281	2,969		
Himachal Pradesh	21,074	18,801	16,550	13,601	2,238,552	2,311,890	8,106	6,300		
Jammu & Kashmir	-	-	-	-	1,473,755	1,513,445	23,558	21,296		
Karnataka	5,435,343	5,812,873	163,919	142,909	7,022,136	6,993,841	44,050	41,402		
Kerala	1,081,959	1,117,026	74,736	69,937	9,441,992	9,841,190	82,633	75,036		
Madhya Pradesh	3,745,568	4,076,909	145,708	112,182	5,272,020	5,481,446	68,885	66,295		
Maharashtra	3,533,012	3,638,018	974,803	893,573	6,519,580	6,763,223	38,321	34,218		
Mumbai	1,845,627	1,934,653	589,996	564,822	-	-	-	-	1,302,170	1,293,805
North East	-	-	-	-	1,412,019	1,385,588	161,736	159,216		
Orissa	1,557,789	1,579,916	77,169	74,610	5,148,900	5,188,240	13,251	12,138		
Punjab	1,820,129	1,871,965	150,131	90,070	4,878,154	4,995,631	-	-		
Rajasthan	430,587	423,236	319,789	275,858	5,870,753	5,674,459	52,920	48,249		
Tamil Nadu (incl. Chennai)	3,348,417	3,468,167	106,422	96,062	9,554,303	9,838,665	33,426	30,915		
UP(E)	2,766,650	2,824,089	96,484	77,379	11,482,040	11,795,111	10,695	7,987		
UP(W)	2,293,545	2,397,975	187,165	177,125	5,899,821	5,720,098	-	-		
Kolkata	2,023,098	2,107,412	226,466	207,662	1,101,377	1,156,138	703	703		
West Bengal	211,982	179,322	29,717	26,921	1,685,059	1,659,772	71,874	72,273		
Total	38,031,810	39,710,396	5,672,095	5,205,681	103,430,607	105,123,343	726,694	687,414	3,622,797	3,606,788

Annexure 1.1 (contd.)

Service Area	Sistema (CDMA)		Reliance Jio (LTE)		Telenor (GSM)		Total		Net Additions
	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	
Andhra Pradesh			10,576,313	11,466,889	4,736,707	4,509,364	85,745,535	85,285,771	(459,764)
Assam			1,863,142	2,289,606			22,139,648	22,156,342	16,694
Bihar			7,149,271	8,429,632	8,801,239	8,535,033	86,008,202	84,603,247	(1,404,955)
Delhi	452,581	382,111	8,419,025	8,732,876			54,547,980	54,752,457	204,477
Gujarat	93,273	72,501	9,121,887	10,111,962	8,008,349	7,762,084	72,299,273	69,060,755	(3,238,518)
Haryana			3,159,776	3,602,426			25,670,959	25,482,833	(188,126)
Himachal Pradesh			1,195,557	1,429,106			10,643,881	10,811,327	167,446
Jammu & Kashmir			1,380,981	1,595,096			12,348,748	12,563,158	214,410
Karnataka	624,197	522,340	7,781,135	8,568,111			69,632,907	70,480,770	847,863
Kerala	197,812	180,928	3,955,304	4,507,395			39,823,618	41,253,658	1,430,040
Madhya Pradesh			7,145,626	8,364,354			70,916,281	71,482,858	566,577
Maharashtra			8,756,881	9,965,772	6,965,231	6,585,229	95,087,799	94,607,805	(479,994)
Mumbai			5,647,871	6,449,427			36,772,015	37,466,307	694,292
North East			998,167	1,190,395			12,775,282	12,903,129	127,847
Orissa			2,994,848	3,515,820			34,721,780	34,462,178	(259,602)
Punjab			5493384	6266623			37,087,340	37,349,477	262,137
Rajasthan	1,062,029	848,103	6,169,980	7,203,025			67,975,283	66,796,165	(1,179,118)
Tamil Nadu (incl. Chennai)	416,727	380,530	8,990,940	9,580,098			90,244,999	90,855,576	610,577
UP(E)			7,855,106	8,635,919	11,014,512	10,963,546	106,457,971	105,681,996	(775,975)
UP(W)	81,411	76,372	6,532,070	7,326,032	7,811,380	7,657,191	67,564,925	66,554,666	(1,010,259)
Kolkata	318,047	281,998	4,077,977	4,568,090			29,483,812	29,754,886	271,074
West Bengal	884,697	771,424	4,098,628	4,817,250			58,892,645	58,675,564	(217,081)
Total	4,130,774	3,516,307	123,363,869	138,615,904	47,337,418	46,012,447	1,186,840,883	1,183,040,925	(3,799,958)

Annexure 1.2: Wireline Subscriber Base

Service Area	Bharti		Reliance		Quadrant		Sistema		Tata		MTNL		BSNL		Vodafone		Aircel		Total		Net Additions
	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	Jun-17	Sep-17	
Andhra Pradesh	162,352	164,472	75,219	74,169					175,383	174,368			1,171,208	1,129,657	13,260	25,380		4,011	1,597,422	1,572,057	-25,365
Assam													147,597	143,061	2,550	2,520			150,147	145,581	-4,566
Bihar			6,497	6,408					12,706	12,129			267,648	256,099	1,920	1,950			288,771	276,586	-12,185
Delhi	1,292,744	1,306,057	169,762	166,211					139,984	139,933	1,586,330	1,570,235			30,450	30,320		32,264	3,219,270	3,245,020	25,750
Gujarat	77,421	77,746	72,364	71,187					90,250	90,529			1,069,105	1,054,207	8,931	9,097		58	1,318,071	1,302,824	-15,247
Haryana	22,735	22,489	4,014	3,724					38,599	37,618			263,687	251,827					329,035	315,658	-13,377
Himachal Pradesh			3,924	3,891					2,514	2,527			135,296	127,257	60	60			141,794	133,735	-8,059
Jammu & Kashmir													127,199	121,908					127,199	121,908	-5,291
Karnataka	623,250	633,104	158,808	156,577					251,887	265,196			1,196,976	1,161,390	24,180	29,510		25,902	2,255,101	2,271,679	16,578
Kerala	58,211	57,636	32,796	32,510					18,863	19,029			1,968,798	1,912,397	1,830	2,160			2,080,498	2,023,732	-56,766
Madhya Pradesh	272,754	268,995	19,622	19,514					15,354	15,280			704,002	694,783	570	570			1,012,302	999,142	-13,160
Maharashtra	79,363	79,492	80,691	78,567					309,047	309,673			1,368,082	1,325,697	14,505	14,909		644	1,851,688	1,808,982	-42,706
Mumbai	358,504	359,565	253,751	252,279					553,634	553,699	1,847,835	1,833,980			24,098	25,365		4,604	3,037,822	3,029,492	-8,330
North East													117,456	115,109	180	120			117,636	115,229	-2,407
Orissa			3,311	3,235					7,963	8,198			268,850	261,775	1,320	1,350			281,444	274,558	-6,886
Punjab	119,123	119,463	20,149	19,818	266,567	263,320			16,031	15,797			543,953	511,064	1,050	1,110			966,873	930,572	-36,301
Rajasthan	48,694	49,208	19,706	19,425			55,069	54,086	11,407	12,033			569,465	539,879	5,700	5,700		3,560	710,041	683,891	-26,150
Tamil Nadu (incl. Chennai)	556,447	556,478	132,050	130,688					112,831	112,670			1,677,493	1,617,284	11,520	13,970			2,490,341	2,431,090	-59,251
U.P.(E)	64,002	64,092	34,373	34,217					13,221	13,484			371,671	367,235	1,950	9,070		2	485,217	488,100	2,883
U.P.(W)	22,974	22,873	7,102	7,042					9,630	9,888			338,096	324,616	4,110	4,050		131	381,912	368,600	-13,312
Kolkata	120,930	121,142	68,878	68,191					50,377	50,209			595,304	581,228	5,700	5,610		568	841,189	826,948	-14,241
West Bengal			1,938	1,908					4,149	3,591			308,967	299,484	60	60			315,114	305,043	-10,071
Total	3,879,504	3,902,812	1,164,955	1,149,561	266,567	263,320	55,069	54,086	1,833,830	1,845,851	3,434,165	3,404,215	13,210,853	12,795,957	153,944	182,881	0	71,744	23,998,887	23,670,427	-328,460

Annexure 1.3: Service Area and Operator wise details of PCOs

Name of the Circle/Service Area	Service Provider	No. of PCO in QE Jun-17	No. of PCO in QE Sep-17	Net PCO Increase/ decrease during Sep-17	Percentage Growth/ Decline in QE Sep-17
Andhra Pradesh (excl. Telengana)	Bharti	181	184	3	1.66%
	BSNL	18,507	17,356	-1,151	-6.22%
	Tata	2,464	4,092	1,628	66.07%
Arunanchal Pradesh	BSNL	3,571	3,533	-38	-1.06%
Assam	BSNL	5,397	5,841	444	8.23%
Jharkhand	BSNL	3,381	2,691	-690	-20.41%
Bihar (Excl. Jharkhand)	BSNL	1,641	1,641	0	0.00%
	Tata	13	6	-7	-53.85%
Delhi	Bharti	385	330	-55	-14.29%
	MTNL	51,920	49,564	-2,356	-4.54%
	Tata	1,617	1,516	-101	-6.25%
Gujarat	Bharti	14	14	0	0.00%
	BSNL	21,492	21,055	-437	-2.03%
	Tata	655	1,556	901	137.56%
Haryana	Bharti	158	155	-3	-1.90%
	BSNL	1,821	1,751	-70	-3.84%
	Tata	41	43	2	4.88%
Himachal Pradesh	BSNL	1,524	1,345	-179	-11.75%
	Tata	5	2	-3	-60.00%
Jammu & Kashmir	BSNL	2,098	1,935	-163	-7.77%
Karnataka	Bharti	4,016	3,886	-130	-3.24%
	BSNL	24,749	23,060	-1,689	-6.82%
	Tata	659	613	-46	-6.98%
Kerala	Bharti	490	478	-12	-2.45%
	BSNL	18,683	17,785	-898	-4.81%
	Tata	50	29	-21	-42.00%
Kolkata	Bharti	26	26	0	0.00%
	BSNL	4,951	4,612	-339	-6.85%
	Tata	194	168	-26	-13.40%
Chattisgarh	BSNL	1,598	1,543	-55	-3.44%
Madhya Pradesh (excl. Chattisgarh)	Bharti	2,090	1,928	-162	-7.75%
	BSNL	20,412	18,596	-1,816	-8.90%
	Tata	549	547	-2	-0.36%
Maharashtra (excl. Mumbai & Goa)	BSNL	47,688	45,760	-1,928	-4.04%
	Tata	6,050	6682	632	10.45%

Annexure 1.3 (Contd.)

Name of the Circle/Service Area	Service Provider	No. of PCO in QE Jun-17	No. of PCO in QE Sep-17	Net PCO Increase/ decrease during Sep-17	Percentage Growth/ Decline in QE Sep-17
Mumbai	Bharti	40	40	0	0.00%
	MTNL	75,137	73,377	-1,760	-2.34%
	Tata	3701	3796	95	2.57%
Orissa	BSNL	2,193	2,161	-32	-1.46%
	Tata	42	59	17	40.48%
Punjab	Bharti	55	47	-8	-14.55%
	BSNL	3,302	2,568	-734	-22.23%
	Quadrant Televentures Ltd.	1,513	1,420	-93	-6.15%
	Tata	168	226	58	34.52%
Rajasthan	Bharti	209	209	0	0.00%
	BSNL	7,237	6,446	-791	-10.93%
	S.Shyam	9,531	9,498	-33	-0.35%
	Tata	163	223	60	36.81%
Chennai	BSNL	9,915	9,562	-353	-3.56%
Tamilnadu (excl. Chennai)	Bharti	6223	5948	-275	-4.42%
	BSNL	40,818	39,170	-1,648	-4.04%
	Tata	143	121	-22	-15.38%
Uttar Pradesh-East	Bharti	97	90	-7	-7.22%
	BSNL	11,300	10,154	-1,146	-10.14%
	Tata	9	7	-2	-22.22%
Uttarakhand	BSNL	1,268	1,191	-77	-6.07%
Uttar Pradesh-West (excl. Uttarakhand)	Bharti	66	59	-7	-10.61%
	BSNL	2,367	2,205	-162	-6.84%
	Tata	108	154	46	42.59%
Andaman and Nicobar	BSNL	142	142	0	0.00%
West Bengal (excl. Andaman & Nicobar)	BSNL	4,254	4,034	-220	-5.17%
	Tata	48	45	-3	-6.25%
Total		429,139	413,275	-15,864	-3.70%

Annexure 1.4: Service Area & Operator wise details of Village Public Telephones

Service Provider	Name of the Circle/Service Area	No. of VPT June-2017	No. of VPT Sep-2017	Net VPTs increase/decreased during QE Sep-17	Percentage Growth/Decline in QE Sep-17
BSNL	Andhra Pradesh (excluding Telegana)	10,113	10,113	0	0.00%
BSNL	Assam	2,900	2,810	-90	-3.10%
BSNL	Bihar (Excl. Jharkhand)	7,008	6,768	-240	-3.42%
BSNL	Jharkhand	490	490	0	0.00%
BSNL	Chennai	170	165	-5	-2.94%
BSNL	Gujarat	11,022	10,035	-987	-8.95%
BSNL	Haryana	1,453	1,440	-13	-0.89%
BSNL	Himachal Pradesh	7,553	6,368	-1,185	-15.69%
BSNL	Jammu & Kashmir	4,401	2,248	-2,153	-48.92%
BSNL	Karnataka	8,127	7,586	-541	-6.66%
BSNL	Kerala	432	415	-17	-3.94%
BSNL	Kolkata	135	130	-5	-3.70%
BSNL	Madhya Pradesh (excl. Chattisgarh)	39,715	39,528	-187	-0.47%
BSNL	Chattisgarh	8,394	8,394	0	0.00%
BSNL	Maharashtra (excl. Mumbai & Goa)	24,173	23,827	-346	-1.43%
BSNL	North East	8,285	7,468	-817	-9.86%
BSNL	Orissa	6,205	6,205	0	0.00%
BSNL	Punjab	10,385	6,001	-4,384	-42.21%
BSNL	Rajasthan	12,832	10,728	-2,104	-16.40%
BSNL	Tamilnadu (excluding Chennai)	12,053	11,542	-511	-4.24%
BSNL	Uttar Pradesh - East	1,319	1,217	-102	-7.73%
BSNL	Uttar Pradesh - West (excluding Uttarakhand)	3,573	3,394	-179	-5.01%
BSNL	Uttarakhand	3,462	3,462	0	0.00%
BSNL	Andaman and Nicobar	340	0	-340	-100.00%
BSNL	West Bengal (excluding Andaman & Nicobar)	36,958	36,958	0	0.00%
Tata	Maharashtra & Goa	1,282	0	0	-100.00%
Total		2,22,780	2,07,292	-15,488	-6.95%

**Annexure 1.5 : Internet Service Provider(ISP) wise Internet Subscriber base
as on 30.09.2017**

Sl. No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
1	Reliance Jio Infocomm Ltd (Infotel Broadband Services Limited)	0	138615904	138615904
2	Bharti Airtel Limited	32008751	62294731	94303482
3	Vodafone	21736495	45975013	67711508
4	Idea Cellular	8589570	29614167	38203737
5	Bharat Sanchar Nigam Ltd.	10915589	21242487	32158076
6	Aircel	10697647	5523074	16220721
7	Reliance Communications	7142722	9073153	16215875
8	Tata	4690205	4316099	9006304
9	Telenor	7969328	331339	8300667
10	Mahanagar Telephone Nigam Ltd.	484517	1408903	1893420
11	Atria Convergence Technologies Pvt Ltd	0	1238823	1238823
12	Sistema Shyam	11946	872831	884777
13	Hathway Cable & Datacom Pvt. Ltd.	14175	681096	695271
14	You Broadband India Pvt. Ltd.	16527	674613	691140
15	Tikona	1901	279391	281292
16	GTPL Broadband Pvt. Ltd.	11	253189	253200
17	D-Vois Broadband Private Limited	0	226514	226514
18	Quadrant Televentures Ltd.	380	221909	222289
19	Asianet Satellite Communications Ltd.	0	185427	185427
20	Alliance Broadband Services Pvt. Ltd.	0	179420	179420
21	Syscon Infoway Pvt Ltd	27075	148613	175688
22	Excitel Broadband Private Limited	0	169412	169412
23	Indinet Service Pvt Ltd	0	133001	133001
24	DEN Networks Ltd	6	106783	106789
25	RailTel Corporation of India Ltd.	0	97939	97939
26	Planet E-Shop Holdings India Ltd.	192	76566	76758
27	Five Network Solution (India) Ltd.	0	69944	69944
28	Ortel Communication Ltd.	0	65364	65364
29	Honesty Net Solutions (I) Pvt Ltd	169	64571	64740
30	Airlink Communications Pvt. Ltd	0	63382	63382
31	Nextra Teleservices Pvt. Ltd.	0	49469	49469
32	SITI Broadband Services Pvt. Ltd.	0	41351	41351
33	Wan and Lan Internet Pvt. Ltd.	0	37656	37656
34	Citycom Networks Pvt. Ltd.	0	35865	35865
35	Wish Net Pvt. Ltd.	0	35363	35363

Annexure 1.5 (contd.)

Sl. No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
36	Limras Eronet Broadband Service Pvt Ltd	6814	24765	31579
37	Vasai Cable Pvt. Ltd.	0	26303	26303
38	DNA Infotel Pvt Ltd	0	23830	23830
39	Chandra Net Pvt. Limited	1	21268	21269
40	Ishan Netsol Pvt Ltd	17105	3912	21017
41	Broadband Pacenet (I) Pvt. Ltd.	0	19328	19328
42	Geocity Network Solutions Pvt. Ltd.	0	16370	16370
43	Rajesh Multi Channel Pvt. Ltd.	81	16234	16315
44	IKF Technologies Ltd	199	15846	16045
45	Quest Consultancy Pvt. Ltd.	0	13977	13977
46	Apna Telelink Ltd.	0	13045	13045
47	Home Systems Pvt. Ltd.	0	13013	13013
48	City Online Services Ltd	0	11834	11834
49	GBPS Networks Pvt. Ltd.	0	11829	11829
50	Yashash Cable Network Pvt Ltd	0	11548	11548
51	Fusionnet Web Services Pvt. Ltd.	0	10943	10943
52	Southern Online Bio Technologies Ltd.	76	10039	10115
53	Kappa Internet Services Pvt Ltd.	0	9931	9931
54	SmartLink Broadband Services	0	9721	9721
55	Pioneerelabs	321	8951	9272
56	World Phone Internet Services Pvt Ltd	0	8978	8978
57	Meghbela Cable & Broadband Servies (P) Ltd	0	8698	8698
58	Netplus Broadband Services Pvt. Ltd	0	8066	8066
59	Blazenet Ltd.	4069	3874	7943
60	North East Dataa Network Pvt Ltd.	0	7942	7942
61	Swiftnet Broadband Pvt Ltd	0	7557	7557
62	Sikka Broadband(P) Ltd.(Gomti Cable Network Pvt. Ltd.)	0	7233	7233
63	Lotus Broadband Pvt Ltd	0	6894	6894
64	RI Networks Pvt Ltd	0	6790	6790
65	Readylink Internet Services Pvt Ltd	387	5619	6006
66	United Telecoms Ltd.	191	5607	5798
67	Digital Network associates Pvt. Ltd	76	5573	5649
68	Intermedia Cable Communication Pvt Ltd	0	5263	5263

Annexure 1.5 (contd.)

Sl. No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
69	CJM Consultancy Services Pvt. Ltd.	0	5114	5114
70	Narmada Cyberzone Pvt Ltd	1858	3097	4955
71	Siliguri Internet & Cable TV Pvt. Ltd.	0	4875	4875
72	Spacenet Internet Services Pvt Ltd	0	4744	4744
73	CSC e-Governance Services India Ltd.	0	4463	4463
74	Shri Omkar Infocom Pvt. Ltd.	0	4317	4317
75	Swiftmail Communications Ltd.	1109	2995	4104
76	VIVA Communications Pvt Ltd (Mylai Karpagambal Information Systems (P) Ltd)	6	4031	4037
77	Cityzone Infonet Pvt. Ltd	0	3677	3677
78	Digital Cloud Technologies Pvt. Ltd.	0	3502	3502
79	Sampark Infotainment Pvt Ltd	0	3498	3498
80	Multinet (Udaipur) Pvt. Ltd.	0	3413	3413
81	CJ Online Pvt. Ltd.	0	3140	3140
82	Nettlinx Ltd.	374	2657	3031
83	Airgenie Communications Pvt. Ltd.	0	2931	2931
84	F/X Wireless Technology Services Pvt. Ltd.	0	2915	2915
85	WE INTERNET LIMITED (Nivyah Infrastructure & Telecom Services Ltd.)	0	2892	2892
86	Star Broadband Services (I) Pvt Ltd	0	2783	2783
87	Speed Online.net Pvt. Ltd.	0	2554	2554
88	Kaizen Infonet Pvt Ltd	7	2526	2533
89	Jetspot Networks Pvt. Ltd.	0	2492	2492
90	Rajesh Patel Net Services Pvt. Ltd.	17	2171	2188
91	Sphier Infotech Pvt. Ltd.	0	2122	2122
92	Wnet Telecom Private Limited	0	2018	2018
93	S.S.Netcom Pvt Ltd	0	2007	2007
94	Capture Network Systems Pvt. Ltd.	284	1530	1814
95	Aerocast Networks Pvt Ltd.	0	1768	1768
96	Hughes Communications India Ltd.	491	1071	1562
97	Sify Technologies Ltd.	814	691	1505
98	Touch Net India Pvt. Ltd.	0	1452	1452
99	Aeroway Networks Pvt Ltd.	0	1298	1298
100	Symbois Creations Pvt. Ltd.	10	1249	1259

Annexure 1.5 (contd.)

Sl. No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
101	Harisree CableNet Pvt. Ltd.	0	1199	1199
102	delDSL Internet Pvt Ltd	0	1095	1095
103	Correl IT Services Pvt. Ltd.	0	863	863
104	Elyzium Technologies Pvt. Ltd.	0	846	846
105	STN Communication & Advertising Pvt Ltd.	12	812	824
106	NetMagic Solutions(P) Ltd.	0	730	730
107	Japra Tele Link Pvt. Ltd.	0	681	681
108	Data Infosys Ltd.	0	677	677
109	Primenet Global Ltd.	0	665	665
110	Daksh Broadband Services Pvt Ltd	0	645	645
111	Barani Data Solutions Private Limited	368	243	611
112	Conjoinix Technologies Pvt Ltd	0	559	559
113	Gorakhpur Net Services Pvt. Ltd.	0	553	553
114	Datawave IT solutions Pvt. Ltd.	0	551	551
115	Digital2Virtual ISP Pvt. Ltd.	0	549	549
116	Rajdhani Telecom Pvt. Ltd.	37	489	526
117	Tata Sky Broadband Private Limited	0	501	501
118	Rida Communication Pvt. Ltd.	0	440	440
119	Oasis Cable Pvt Ltd.	427	0	427
120	Suncity Broadband Pvt Ltd.	0	424	424
121	Tamana Winet Pvt. Ltd.	0	417	417
122	Oistel Telecom Pvt. Ltd.	210	198	408
123	Singh Internet Services Pvt. Ltd.	0	361	361
124	Chetan Internet Services Pvt. Ltd.	0	328	328
125	Power Grid Corporation of India Ltd.	0	327	327
126	Gleam Worldwide Services Pvt. Ltd.	0	320	320
127	Pulse Telesystems Pvt. Ltd.	0	257	257
128	Reticule Infotech Pvt. Ltd.	0	249	249
129	Khetan Cable Network (P) Ltd	0	197	197
130	Bhiwani Communications Pvt. Ltd.	94	90	184
131	Microsense Pvt. Ltd.	0	183	183
132	ERNET India	90	56	146
133	Shri Vinayagaa Internet Pvt Ltd	1	141	142
134	QBC Infotech Pvt. Ltd.	0	140	140
135	Angel Air Network Solutions Pvt Ltd	0	90	90
136	Trans Virtual Pvt. Ltd.	16	74	90
137	Telestra Telecommunications Pvt. Ltd.	0	77	77

Annexure 1.5 (contd.)

Sl. No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
138	HCL Comnet Systems & Services Ltd.	56	14	70
139	Pacific Internet India Pvt. Ltd.	0	66	66
140	Sanyog Networks Pvt Ltd	0	66	66
141	Edge Telecommunications Pvt. Ltd.	0	62	62
142	Verizon Communications India Pvt. Ltd. (Worldcom Communications).	0	62	62
143	AT&T Global Network Services India Pvt Ltd	0	60	60
144	Airmesh Communications Limited	0	58	58
145	West Bengal Electronics Industry Development Corp. Ltd.	0	40	40
146	Dream Plus Multi Services Pvt. Ltd.	10	29	39
147	Adya Tech One Services Pvt Ltd	0	34	34
148	Orange Business Services India Network Pvt. Ltd.	0	18	18
149	Novanet India Ltd.	0	16	16
150	Vcare Call Centres India Pvt. Ltd.	0	12	12
151	Financial Technologies Communications Ltd.	11	0	11
152	Tatanet Services Ltd	0	7	7
153	Essel Shyam Communications Limited	1	5	6
154	ABT Ltd.	3	2	5
155	Nelco Ltd.	0	4	4
156	Sab Infotech (Sab Industries)	0	2	2
	Total	104342832	324890720	429233552

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

**Annexure 1.6: List of Service Providers which reported IP
Telephony Minutes for Q.E. Sep-17**

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 1.7: Service Area wise PMRTS subscriber Base

SNo.	Operative Area	Service Provider	Subscriber Base	
			30.06.2017	30.09.2017
1	Delhi(Faridabad/ Gurgaon)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	5238	5112
		Procall(Delhi)	2728	2711
		Total	7966	7823
2	Mumbai (Navi Mumbai)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	7769	7729
		Smartalk (Mumbai)	538	517
		Bhilwara Telenet(Mumbai)	805	811
		Airtalk Solutions & Services Pvt. Ltd	314	314
		Total	9426	9371
3	Kolkata	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	2469	2429
		Total	2469	2429
4	TN(Chennai)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	6879	6711
		Quick Calls	341	371
		Total	7220	7082
5	Karnataka (Bangalore)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	6952	6874
		Quick Calls	398	415
		Total	7350	7289
6	Andhra Pradesh (Vishakhapatnam & Hyderabad)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	4894	4968
		Quick Calls (Hyderabad Urban)	708	704
		Total	5602	5672
7	Madhya Pradesh (Indore)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	1282	1255
		Total	1282	1255
8	Rajasthan (Jaipur)	Procall	294	294
		Arya Omnitalk Radio Trunking Services Pvt.Ltd.	506	431
		Total	800	725

Annexure- 1.7 (Contd.)

SNo.	Operative Area	Service Provider	Subscriber Base	
			30.06.2017	30.09.2017
9	Gujarat (Ahmedabad/ Surat/Vadodara/ Bharuch/Dahej/ Kutch/Amrela / Jamnagar)	Arya Omnitalk Radio Trunking Services Pvt.Ltd. (Ahmedabad/Surat/ Vadodara/Bharuch/Dahej)	6216	6249
		Inative Network Pvt. Ltd. (Ahmedaba/Surat/ Vadodara/ Bharuch/ Kutch/Amrela/Jamnagar)	1820	1820
		Total	8036	8069
10	Maharashtra (Pune)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	1542	1607
		Smartalk	501	469
		Total	2043	2076
11	Kerala (Cochin City & Quilon)	Wiwonet Solutions Pvt Ltd.	273	345
		Arya Omnitalk Radio Trunking Services Pvt.Ltd.	644	674
		Total	917	1019
Grand Total			53111	52810

Annexure 2.1: GSM Service - Service Area wise Statistics for QE Sep-17

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	95.36	108	17	227	215	442
Gujarat	94.36	76	7	219	164	383
Karnataka	93.41	102	24	196	201	396
MH	95.09	88	32	193	170	363
TN (incl. Chennai)	94.68	100	27	206	203	410

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	96.97	69	24	223	239	462
Kerala	96.58	130	10	208	217	426
MP	97.58	73	10	167	191	357
Punjab	94.26	92	49	260	223	482
Rajasthan	97.31	72	6	212	212	424
UP(E)	98.70	70	5	200	273	473
UP(W)	98.15	69	7	203	221	424
WB	99.18	64	19	189	242	431

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	97.08	89	20	225	267	492
Bihar	99.19	71	5	220	310	530
HP	98.22	72	5	219	193	413
J&K	86.87	86	7	327	281	608
NE	98.12	82	32	211	202	413
Orissa	98.78	67	7	225	253	478

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	93.51	73	10	202	193	395
Delhi	86.95	81	10	296	216	512
Mumbai	82.66	109	12	308	199	507

**Annexure 2.2: CDMA Full Mobility Service - Service Area wise Statistics for
QE Sep-17**

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	90.30%	126	3	63	55	118
Gujarat	81.59%	187	1	59	48	108
TN (incl. Chennai)	86.81%	176	4	97	89	186
Karnataka	86.86%	160	1	74	66	139
AP	87.92%	134	2	65	52	117

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	99.42%	52	2	101	91	192
Rajasthan	97.00%	58	2	101	85	186
UP(E)	84.48%	247	0	44	41	84
MP	92.03%	194	1	78	67	145
Kerala	89.76%	140	1	33	28	61
UP(W)	87.86%	117	1	55	44	99
Haryana	95.83%	147	0	55	44	98
Punjab	82.86%	215	0.3	66	46	112

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	86.85%	176	1	65	54	119
Bihar	93.62%	93	3	81	63	144
HP	70.96%	156	0	41	18	59
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	86.75%	130	2	81	72	153
Delhi	84.77%	122	2	105	70	175
Mumbai	64.33%	242	1	41	32	73

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, 2017																			
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) (%age)	Worst affected BTSs due to downtime (%age)	Call Set-up Success Rate (within licensee's own network)	SDCCH/ Paging Chl. Congestion (%age)	TCH Congestion (%age)	Call Drop Rate (%age)	Worst affected cells having more than 3% TCH drop (call drop) rate (%age)	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	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	0.07	0.05	99.38	0.04	0.14	0.31	1.41	97.65	0	0.01	0.00	100.00	100.00	100.00	96.82	97.10	98.13	100.00
	AIRTEL	0.15	0.16	98.23	0.74	0.71	1.07	0.03	96.91	0	0.08	0.08	100.00	100.00	100.00	99.95	97.10	100.00	100.00
	BSNL	1.00	1.66	98.11	0.49	0.72	0.63	2.69	98.00	0	0.00	0.00	100.00	100.00	100.00	97.00	99.23	100.00	100.00
	IDEA	0.06	0.04	99.07	0.65	0.52	0.91	2.75	96.89	0	0.04	0.02	99.80	100.00	100.00	98.20	97.15	100.00	100.00
	Rcom GSM	0.62	1.83	99.40	0.01	0.24	0.15	1.01	99.43	0	0.09	0.06	100.00	100.00	100.00	98.43	95.95	100.00	0.00
	TELENOR	0.07	0.07	99.77	0.06	0.01	0.59	1.57	98.81	0	NA	0.00	100.00	100.00	NA	99.26	98.99	NA	NA
	TTL CDMA	0.04	0.12	99.43	0.00	0.01	0.11	1.13	98.25	0	0.00	0.00	100.00	100.00	100.00	100.00	94.37	100.00	100.00
	TTL GSM	0.03	0.00	99.32	0.09	0.02	0.41	2.62	98.17	0	0.00	0.00	100.00	100.00	100.00	98.07	93.14	100.00	99.43
VODAFONE	0.04	0.12	99.92	0.05	0.08	0.45	2.91	99.15	0	0.08	0.07	100.00	100.00	100.00	100.00	99.00	100.00	100.00	
Assam	AIRCEL	1.72	13.14	86.98	1.05	9.89	1.90	15.97	93.16	0	0.00	0.00	100.00	100.00	100.00	92.31	97.14	94.87	100.00
	AIRTEL	0.78	1.44	95.22	0.83	1.04	1.28	1.30	99.46	0	0.03	0.15	100.00	100.00	100.00	94.82	93.83	100.00	100.00
	BSNL	1.99	1.94	98.30	0.84	1.65	1.75	2.99	96.72	0	0.01	0.00	100.00	100.00	100.00	97.00	98.57	100.00	100.00
	IDEA	1.43	0.93	97.28	0.16	0.70	0.53	2.28	95.94	0	0.20	0.05	100.00	100.00	100.00	93.94	94.51	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.03	100.00	100.00	100.00	96.61	96.09	100.00	0.00
VODAFONE	0.90	1.26	98.99	0.32	1.01	0.84	2.01	97.61	0	0.03	0.06	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Bihar	AIRCEL	0.32	1.33	95.42	0.46	4.19	1.21	6.22	96.79	0	0.00	0.00	100.00	100.00	100.00	95.98	98.87	100.00	100.00
	AIRTEL	0.11	0.45	95.66	0.73	1.44	1.72	2.54	95.61	0	0.03	0.03	100.00	100.00	100.00	99.46	98.82	100.00	100.00
	BSNL	1.95	1.91	95.68	0.44	0.23	1.28	2.56	97.48	0	0.00	0.00	100.00	100.00	100.00	98.50	98.09	100.00	100.00
	IDEA	0.89	1.72	96.94	0.91	1.86	1.05	2.67	95.80	0	0.02	0.01	100.00	100.00	100.00	97.34	99.89	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.09	100.00	100.00	100.00	98.72	88.68	100.00	0.00
	TELENOR	0.07	0.07	98.94	0.32	0.77	0.98	3.27	97.66	0	NA	0.00	100.00	100.00	NA	99.72	99.53	NA	NA
	TTL CDMA	0.18	0.00	98.44	0.00	0.01	0.22	1.12	98.24	0	0.01	0.00	100.00	100.00	100.00	100.00	98.78	100.00	100.00
	TTL GSM	0.49	2.47	98.87	1.09	0.14	0.48	3.07	98.14	0	0.01	0.00	100.00	100.00	100.00	98.07	98.88	100.00	100.00
VODAFONE	0.53	1.81	99.45	0.18	0.55	0.91	2.89	97.93	0	0.01	0.10	100.00	100.00	100.00	100.00	96.91	100.00	100.00	
Chennai	BSNL	0.36	1.23	98.20	0.33	1.80	0.67	1.07	97.65	0	0.00	0.00	99.00	100.00	100.00	100.00	95.60	100.00	100.00

Annexure 4.1 (Contd.)

Delhi	AIRCEL	0.18	0.67	98.12	0.12	0.39	0.81	5.01	97.29	0	0.00	0.00	100.00	100.00	100.00	98.20	96.67	100.00	100.00
	AIRTEL	0.02	0.00	99.01	0.06	0.10	0.96	1.91	99.22	0	0.14	0.07	99.98	100.00	100.00	99.46	94.15	100.00	100.00
	IDEA	0.11	0.00	98.67	0.21	0.48	0.77	2.36	98.60	0	0.08	0.06	99.98	99.99	100.00	99.00	95.77	99.92	100.00
	MTNL	0.09	0.09	97.06	0.10	1.72	1.82	2.53	97.92	0	0.02	0.01	100.00	100.00	100.00	99.88	97.15	100.00	100.00
	MTS	0.03	0.00	98.82	0.00	0.02	0.24	2.47	99.09	0	0.01	0.01	100.00	100.00	100.00	95.20	96.37	100.00	100.00
	Rcom GSM	0.30	1.90	99.74	0.02	0.25	0.20	0.49	98.86	0	0.09	0.08	100.00	100.00	100.00	99.11	96.84	100.00	0.00
	TTL CDMA	0.05	0.00	99.45	0.00	0.04	0.34	2.08	99.21	0	0.00	0.00	100.00	100.00	100.00	98.88	95.67	100.00	100.00
	VODAFONE	0.11	0.45	98.82	0.41	1.18	1.34	2.66	97.56	0	0.13	0.05	99.99	100.00	100.00	100.00	90.24	100.00	100.00
Gujarat	AIRCEL	0.05	0.00	99.41	0.03	0.00	0.36	2.86	97.66	0	0.00	0.00	100.00	100.00	100.00	93.94	98.42	100.00	100.00
	AIRTEL	0.23	1.02	98.20	0.24	1.51	1.13	2.79	96.93	0	0.20	0.06	99.98	100.00	100.00	100.00	94.65	100.00	100.00
	BSNL	1.87	1.37	96.55	0.09	0.40	0.38	1.66	100.00	0	0.01	0.00	100.00	100.00	100.00	98.00	97.54	100.00	100.00
	IDEA	0.10	0.44	98.14	0.45	1.27	0.78	2.57	96.86	0	0.02	0.02	99.98	100.00	100.00	93.48	95.10	100.00	100.00
	MTS	0.03	0.00	99.75	0.00	0.00	0.18	1.55	99.14	0	0.01	0.02	100.00	100.00	100.00	98.15	98.20	100.00	100.00
	Rcom GSM	0.42	1.87	99.98	0.01	0.08	0.10	0.85	99.08	0	0.09	0.20	100.00	100.00	100.00	99.04	82.68	100.00	0.00
	TELENOR	0.16	0.60	99.29	0.04	0.05	0.75	2.29	98.56	0	NA	0.00	100.00	100.00	NA	99.69	97.33	NA	NA
	TTL CDMA	0.02	0.00	98.74	0.00	0.03	0.34	2.66	99.37	0	0.00	0.00	100.00	100.00	100.00	100.00	95.62	100.00	100.00
TTL GSM	0.07	0.00	99.28	0.02	0.02	0.26	1.50	99.14	0	0.00	0.00	100.00	100.00	100.00	98.01	92.90	100.00	100.00	
VODAFONE	0.13	0.78	99.39	0.32	0.61	0.80	2.61	96.96	0	0.10	0.03	100.00	100.00	100.00	100.00	95.08	100.00	100.00	
Haryana	AIRCEL	0.32	0.00	100.00	0.02	0.00	0.00	0.00	99.87	0	0.00	0.00	100.00	100.00	100.00	98.19	98.33	100.00	100.00
	AIRTEL	0.11	0.09	99.44	0.24	0.25	0.86	0.33	98.91	0	0.14	0.05	100.00	100.00	100.00	100.00	97.23	100.00	100.00
	BSNL	0.83	0.66	99.01	0.19	0.42	1.47	1.78	97.82	0	0.01	0.00	100.00	100.00	100.00	100.00	99.58	100.00	100.00
	IDEA	0.06	0.07	97.96	0.30	0.63	0.83	2.43	97.75	0	0.07	0.04	100.00	100.00	100.00	98.87	97.73	100.00	100.00
	Rcom GSM	0.25	1.77	99.59	0.04	0.04	0.12	1.13	99.47	0	0.08	0.04	100.00	100.00	100.00	99.09	86.99	100.00	0.00
	TTL CDMA	0.61	0.00	96.59	0.00	1.02	0.33	2.78	96.49	0	0.00	0.00	100.00	100.00	100.00	100.00	96.31	100.00	100.00
	TTL GSM	0.21	0.38	98.99	0.05	0.11	0.53	2.90	97.73	0	0.00	0.00	100.00	100.00	100.00	98.37	94.40	100.00	100.00
	VODAFONE	0.16	0.50	99.81	0.14	0.19	0.73	2.94	97.29	0	0.07	0.02	100.00	100.00	100.00	99.96	93.37	100.00	100.00
Himachal Pradesh	AIRCEL	0.10	0.05	99.51	0.07	0.26	1.22	10.18	95.85	0	0.00	0.00	100.00	100.00	100.00	98.45	95.74	100.00	100.00
	AIRTEL	0.05	0.12	99.40	0.14	0.11	0.49	0.42	98.78	0	0.08	0.04	100.00	100.00	100.00	98.07	97.32	100.00	100.00
	BSNL	1.84	1.87	98.32	0.97	1.68	1.71	2.70	95.07	0	0.01	0.00	100.00	100.00	100.00	100.00	99.78	100.00	100.00
	IDEA	0.10	0.14	99.28	0.07	0.12	1.25	1.89	96.66	0	0.02	0.02	100.00	100.00	100.00	98.82	98.46	100.00	100.00
	RTL	0.35	1.98	96.85	0.15	0.42	0.52	2.63	97.10	0	0.07	0.04	100.00	100.00	100.00	96.16	90.71	100.00	0.00
	TTL CDMA	0.02	0.00	98.77	0.00	0.01	0.04	0.69	97.62	0	0.00	0.00	100.00	100.00	100.00	100.00	99.28	100.00	100.00
	TTL GSM	0.00	0.00	100.00	0.00	0.00	0.38	0.43	96.72	0	0.00	0.00	100.00	100.00	100.00	98.79	99.19	100.00	100.00
	VODAFONE	0.06	0.00	99.97	0.03	0.03	0.76	2.29	97.66	0	0.07	0.02	100.00	100.00	100.00	100.00	97.89	100.00	100.00
Jammu & Kashmir	AIRCEL	0.54	3.33	97.57	0.60	1.82	1.09	7.83	95.30	0	0.00	0.00	100.00	100.00	100.00	97.58	96.89	83.88	100.00
	AIRTEL	0.18	0.24	98.31	0.26	0.82	0.87	0.61	98.06	0	0.22	0.17	100.00	100.00	100.00	99.99	97.48	100.00	100.00
	BSNL	1.64	0.73	98.93	0.49	1.07	0.68	2.40	96.79	0	0.01	0.00	100.00	100.00	100.00	100.00	99.81	100.00	100.00
	IDEA	0.28	1.02	98.53	0.15	0.92	1.08	2.14	95.98	0	0.03	0.12	100.00	100.00	100.00	97.19	97.60	100.00	100.00
	Rcom GSM	0.31	2.05	99.32	0.33	0.05	0.11	0.72	99.20	0	0.09	0.08	100.00	100.00	100.00	99.00	89.13	100.00	0.00
	VODAFONE	0.19	1.27	99.92	0.04	0.08	0.62	2.83	98.58	0	0.01	0.03	100.00	100.00	100.00	100.00	97.99	100.00	100.00

Annexure 4.1 (Contd.)

Karnataka	AIRCEL	0.19	0.27	99.53	0.03	0.12	0.41	2.04	98.05	0	0.01	0.00	100.00	100.00	100.00	96.11	98.44	89.92	100.00
	AIRTEL	0.20	0.59	98.84	0.29	0.23	0.53	1.66	96.78	0	0.07	0.06	99.99	100.00	100.00	100.00	96.80	100.00	100.00
	BSNL	1.28	1.76	98.56	0.19	0.86	0.57	2.19	97.08	0	0.08	0.00	99.78	100.00	100.00	99.00	97.18	100.00	100.00
	IDEA	0.07	0.14	99.42	0.20	0.17	0.52	2.19	96.98	0	0.08	0.02	100.00	100.00	100.00	99.68	98.81	100.00	100.00
	MTS	0.42	0.00	99.38	0.00	0.01	0.32	2.36	99.20	0	0.02	0.00	100.00	100.00	100.00	99.99	96.01	100.00	100.00
	Rcom GSM	0.58	1.84	99.63	0.04	0.14	0.08	0.58	99.54	0	0.09	0.02	100.00	100.00	100.00	98.91	95.10	100.00	0.00
	TTL CDMA	0.15	0.68	99.03	0.00	0.09	0.21	1.31	99.20	0	0.00	0.00	100.00	100.00	100.00	100.00	94.01	100.00	100.00
	TTL GSM	0.10	0.14	99.01	0.02	0.02	0.37	2.14	98.07	0	0.00	0.00	100.00	100.00	100.00	98.28	94.68	100.00	100.00
	VODAFONE	0.22	1.03	99.96	0.15	0.04	0.48	2.95	98.89	0	0.04	0.08	100.00	100.00	100.00	100.00	97.77	100.00	100.00
Kerala	AIRCEL	0.09	0.36	99.86	0.01	0.05	0.40	3.78	98.00	0	0.00	0.00	100.00	100.00	100.00	97.06	98.94	100.00	100.00
	AIRTEL	0.06	0.07	99.22	0.04	0.27	0.77	2.94	97.98	0	0.07	0.05	99.97	100.00	100.00	100.00	95.20	100.00	100.00
	BSNL	0.20	0.80	99.03	0.17	0.97	0.63	1.24	99.82	0	0.03	0.00	100.00	100.00	100.00	98.00	97.35	100.00	100.00
	IDEA	0.12	0.46	99.61	0.12	0.37	0.61	1.86	96.72	0	0.09	0.07	99.53	100.00	100.00	97.83	97.29	100.00	100.00
	MTS	0.08	0.00	99.29	0.00	0.00	0.20	2.35	99.15	0	0.07	0.00	100.00	100.00	100.00	99.00	95.71	100.00	100.00
	Rcom GSM	0.67	1.91	99.06	0.02	0.34	0.06	0.88	99.49	0	0.09	0.05	100.00	100.00	100.00	98.87	96.10	100.00	0.00
	TTL CDMA	0.03	0.00	98.82	0.00	0.01	0.23	1.24	99.13	0	0.01	0.01	100.00	100.00	100.00	100.00	90.21	100.00	100.00
	TTL GSM	0.02	0.00	99.77	0.00	0.02	0.28	2.56	99.26	0	0.00	0.00	100.00	100.00	100.00	97.84	93.07	100.00	100.00
VODAFONE	0.03	0.00	99.93	0.05	0.06	0.41	1.58	97.86	0	0.09	0.09	100.00	100.00	100.00	100.00	98.00	100.00	100.00	
Kolkata	AIRCEL	0.24	0.45	98.11	0.11	0.15	0.71	2.82	98.13	0	0.00	0.00	100.00	100.00	100.00	98.85	96.34	96.81	100.00
	AIRTEL	0.00	0.00	99.64	0.13	0.08	0.75	2.41	97.69	0	0.04	0.07	100.00	100.00	100.00	96.41	97.50	100.00	100.00
	BSNL	1.68	1.80	99.34	0.95	1.37	1.63	2.06	97.40	0	0.02	0.01	100.00	100.00	100.00	96.00	95.61	100.00	100.00
	IDEA	0.31	0.71	99.80	0.04	0.06	0.26	0.12	97.67	0	0.07	0.03	100.00	100.00	100.00	98.82	96.21	99.96	100.00
	MTS	0.09	0.00	99.88	0.00	0.01	0.58	2.85	99.46	0	0.09	0.03	100.00	100.00	100.00	99.65	97.64	100.00	100.00
	RTL	1.25	4.09	98.68	0.05	0.46	0.13	0.76	99.03	0	0.09	0.08	100.00	100.00	100.00	97.73	86.10	100.00	0.00
	TTL CDMA	0.11	0.11	99.33	0.00	0.15	0.21	2.05	99.76	0	0.00	0.00	100.00	100.00	100.00	100.00	98.51	100.00	100.00
	TTL GSM	0.15	0.32	99.51	0.02	0.02	0.34	1.16	98.91	0	0.00	0.00	100.00	100.00	100.00	98.23	97.82	100.00	100.00
VODAFONE	0.10	0.47	99.49	0.06	0.51	0.93	2.81	97.52	0	0.06	0.05	100.00	100.00	100.00	100.00	98.28	100.00	100.00	
Madhya Pradesh	AIRCEL	0.31	0.00	97.66	0.13	0.00	0.69	0.67	99.11	0	0.00	0.00	100.00	100.00	100.00	97.33	98.82	100.00	100.00
	AIRTEL	0.09	0.16	98.20	0.12	0.92	1.22	2.19	96.51	0	0.19	0.05	100.00	100.00	100.00	100.00	98.85	100.00	100.00
	BSNL	1.83	1.76	97.29	0.56	1.36	0.96	1.91	97.84	0	0.01	0.02	100.00	100.00	100.00	98.00	99.10	100.00	100.00
	IDEA	0.11	0.28	96.96	0.39	0.82	0.82	2.16	97.64	0	0.08	0.02	100.00	100.00	100.00	98.72	98.37	99.78	100.00
	RTL	0.64	2.10	97.77	0.06	0.46	0.18	0.74	98.99	0	0.09	0.06	100.00	100.00	100.00	98.24	95.00	100.00	0.00
	TTL CDMA	0.07	0.00	97.51	0.00	0.00	0.42	2.57	99.15	0	0.00	0.00	100.00	100.00	100.00	100.00	97.73	100.00	100.00
	TTL GSM	0.03	0.00	99.45	0.02	0.01	0.40	1.87	99.35	0	0.00	0.00	100.00	100.00	100.00	97.63	93.42	100.00	100.00
VODAFONE	0.10	0.48	99.88	0.05	0.12	0.68	3.72	98.79	0	0.05	0.05	100.00	100.00	100.00	100.00	99.22	97.91	100.00	
Maharashtra	AIRCEL	0.12	0.46	99.37	0.01	0.04	0.37	2.31	97.16	0	0.00	0.01	100.00	100.00	100.00	98.18	97.99	100.00	100.00
	AIRTEL	0.03	0.00	97.91	0.13	1.03	0.99	1.62	96.29	0	0.16	0.03	100.00	100.00	100.00	99.97	98.55	100.00	100.00
	BSNL	1.84	1.90	95.62	0.31	1.71	1.03	2.83	95.91	0	0.00	0.01	100.00	100.00	100.00	100.00	99.77	100.00	100.00
	IDEA	0.13	0.35	97.79	0.59	0.98	0.69	2.22	98.34	0	0.08	0.02	100.00	100.00	100.00	99.59	95.28	100.00	100.00
	Rcom GSM	0.42	1.76	99.84	0.09	0.13	0.13	0.73	99.08	0	0.09	0.04	100.00	100.00	100.00	99.25	71.23	100.00	0.00
	TELENOR	0.17	0.85	99.21	0.05	0.06	0.78	3.22	98.31	0	NA	0.00	100.00	100.00	NA	99.50	98.69	NA	NA
	TTML CDMA	0.04	0.00	98.35	0.00	0.50	0.47	2.48	99.87	0	0.00	0.00	100.00	100.00	100.00	100.00	98.32	100.00	100.00
	TTML GSM	0.06	0.00	99.69	0.03	0.07	0.31	1.57	98.36	0	0.00	0.00	100.00	100.00	100.00	97.05	94.90	100.00	100.00
VODAFONE	0.21	0.86	99.58	0.19	0.42	0.66	2.60	97.39	0	0.06	0.09	100.00	100.00	100.00	99.85	98.58	98.86	100.00	

Annexure 4.1 (Contd.)

Mumbai	AIRCEL	0.08	0.15	98.20	0.08	0.23	0.78	4.15	97.83	0	0.00	0.00	100.00	100.00	100.00	98.71	96.18	98.19	100.00	
	AIRTEL	0.17	0.00	98.83	0.20	0.10	1.06	1.82	97.39	0	0.18	0.07	100.00	100.00	100.00	99.69	97.58	100.00	100.00	
	IDEA	0.10	0.03	98.68	0.61	0.87	1.05	1.76	96.77	0	0.04	0.01	100.00	100.00	100.00	94.18	98.76	100.00	100.00	
	MTNL	0.73	1.20	97.71	0.44	0.26	1.76	2.44	96.64	0	0.04	0.00	99.97	100.00	100.00	100.00	97.04	100.00	34.89	
	Rcom GSM	0.28	1.78	99.18	0.09	0.30	0.19	0.69	99.18	0	0.09	0.08	100.00	100.00	100.00	95.44	69.95	100.00	0.00	
	TTML CDMA	0.07	0.00	99.34	0.00	0.03	0.34	2.68	99.16	0	0.00	0.00	100.00	100.00	100.00	100.00	96.48	100.00	100.00	
	TTML GSM	0.21	0.00	99.67	0.02	0.01	0.32	1.23	98.61	0	0.00	0.00	100.00	100.00	100.00	98.43	97.36	100.00	100.00	
VODAFONE	0.31	0.00	98.32	0.19	1.68	1.24	2.86	97.83	0	0.11	0.18	99.97	100.00	100.00	99.90	97.08	100.00	100.00		
North East	AIRCEL	4.21	30.06	96.85	0.48	1.83	1.93	19.73	94.57	0	0.00	0.00	100.00	100.00	100.00	96.07	98.86	99.53	100.00	
	AIRTEL	1.19	1.44	95.20	0.92	1.25	0.78	1.14	99.51	0	0.03	0.08	99.94	100.00	100.00	99.50	98.37	100.00	100.00	
	BSNL	1.83	1.85	97.42	0.78	1.84	1.69	2.29	97.06	0	0.03	0.03	100.00	100.00	100.00	98.00	97.65	100.00	100.00	
	IDEA	1.86	1.67	97.91	0.07	0.62	0.35	2.09	96.09	0	0.13	0.01	100.00	100.00	100.00	100.00	96.90	100.00	100.00	
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02	0.02	100.00	100.00	100.00	99.40	92.02	100.00	0.00
	VODAFONE	0.97	1.35	98.10	0.96	1.90	1.75	2.57	97.79	0	0.03	0.08	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Orissa	AIRCEL	0.30	1.23	98.49	0.41	1.22	1.21	5.75	96.22	0	0.00	0.00	100.00	100.00	100.00	96.44	99.84	98.73	100.00	
	AIRTEL	0.15	0.24	95.05	0.60	1.86	1.57	1.57	96.05	0	0.02	0.02	100.00	100.00	100.00	99.76	99.10	100.00	100.00	
	BSNL	1.30	1.93	98.94	0.84	1.06	1.53	2.65	97.96	0	0.03	0.01	100.00	100.00	100.00	98.00	98.62	100.00	100.00	
	IDEA	0.17	0.61	99.56	0.07	0.14	0.23	0.97	96.25	0	0.01	0.02	100.00	100.00	100.00	97.44	91.75	100.00	100.00	
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.08	100.00	100.00	100.00	97.85	81.97	100.00	0.00	
	TTL CDMA	0.12	0.00	98.53	0.00	0.02	0.32	1.13	98.24	0	0.00	0.00	100.00	100.00	100.00	100.00	98.62	100.00	100.00	
	TTL GSM	0.04	0.00	99.66	0.16	0.04	0.35	1.77	98.35	0	0.01	0.00	100.00	100.00	100.00	97.90	94.75	100.00	100.00	
VODAFONE	0.14	0.45	99.70	0.22	0.30	0.83	1.45	97.84	0	0.04	0.10	100.00	100.00	100.00	99.93	94.05	100.00	100.00		
Punjab	AIRCEL	0.13	0.20	98.38	0.01	0.14	0.64	2.90	98.05	0	0.01	0.00	100.00	100.00	100.00	97.72	96.64	98.63	100.00	
	AIRTEL	0.04	0.04	99.61	0.05	0.04	0.42	0.90	98.76	0	0.09	0.07	100.00	100.00	100.00	88.55	94.96	100.00	100.00	
	BSNL	0.52	1.74	98.03	0.51	0.37	1.29	1.60	96.89	0	0.01	0.00	100.00	100.00	100.00	100.00	99.37	100.00	100.00	
	IDEA	0.07	0.13	99.15	0.06	0.07	0.36	0.68	98.48	0	0.04	0.03	100.00	100.00	100.00	99.90	96.19	100.00	100.00	
	Rcom GSM	0.22	1.89	99.50	0.06	0.04	0.10	0.91	99.37	0	0.09	0.09	100.00	100.00	100.00	99.10	86.27	100.00	0.00	
	TTL CDMA	0.06	0.00	90.08	0.00	8.52	0.30	3.12	99.79	0	0.00	0.00	100.00	100.00	100.00	100.00	96.94	100.00	100.00	
	TTL GSM	0.07	0.06	99.15	0.01	0.04	0.40	2.34	97.79	0	0.00	0.00	100.00	100.00	100.00	98.27	95.09	100.00	100.00	
	VODAFONE	0.07	0.15	99.82	0.08	0.18	0.71	2.90	98.06	0	0.04	0.07	100.00	100.00	100.00	100.00	96.76	100.00	100.00	
Rajasthan	AIRCEL	0.13	0.29	97.79	0.15	0.60	0.79	3.34	97.10	0	0.00	0.00	100.00	100.00	100.00	98.37	97.41	100.00	100.00	
	AIRTEL	0.21	0.77	95.18	0.90	1.64	0.98	2.28	98.64	0	0.05	0.02	99.98	100.00	100.00	99.99	95.70	100.00	100.00	
	BSNL	1.32	1.55	98.93	0.65	1.12	1.26	2.76	97.33	0	0.06	0.02	99.92	100.00	100.00	97.00	98.29	100.00	100.00	
	IDEA	0.13	0.38	99.30	0.24	0.44	0.56	2.13	97.47	0	0.05	0.09	100.00	100.00	100.00	97.43	97.88	100.00	100.00	
	MTS	0.67	0.00	98.32	0.00	0.02	0.51	2.97	99.17	0	0.03	0.02	100.00	100.00	100.00	99.86	96.48	100.00	100.00	
	Rcom GSM	0.44	1.97	99.48	0.08	0.32	0.20	1.74	99.06	0	0.09	0.06	100.00	100.00	100.00	99.06	93.86	100.00	0.00	
	TTL CDMA	0.00	0.00	98.87	0.00	0.03	0.38	3.90	99.21	0	0.00	0.00	100.00	100.00	100.00	100.00	99.47	100.00	100.00	
	TTL GSM	0.00	0.00	99.51	0.07	0.09	0.25	1.69	99.34	0	0.00	0.00	100.00	100.00	100.00	96.92	99.86	100.00	100.00	
VODAFONE	0.17	0.90	99.13	0.49	0.87	0.84	2.59	96.10	0	0.08	0.07	100.00	100.00	100.00	100.00	97.15	100.00	100.00		

Annexure 4.1 (Contd.)

Tamil Nadu	AIRCEL	0.18	0.74	98.59	0.44	1.09	0.90	4.38	95.60	0	0.00	0.00	100.00	100.00	100.00	97.34	99.16	97.54	100.00	
	MTS	0.03	0.00	99.45	0.00	0.01	0.16	2.28	99.18	0	0.01	0.00	100.00	100.00	100.00	98.80	95.10	100.00	100.00	
	TTL CDMA	0.11	0.54	99.11	0.00	0.03	0.08	0.77	98.78	0	0.00	0.00	100.00	100.00	100.00	100.00	83.03	100.00	100.00	
	TTL GSM	0.06	0.07	99.56	0.04	0.02	0.22	0.84	99.02	0	0.00	0.00	100.00	100.00	100.00	98.49	91.97	100.00	100.00	
	BSNL	0.61	1.96	98.73	0.26	0.59	0.88	2.25	96.28	0	0.07	0.00	100.00	100.00	100.00	100.00	97.00	100.00	100.00	
	IDEA	0.01	0.00	99.78	0.07	0.12	0.30	1.15	99.08	0	0.04	0.07	100.00	100.00	100.00	96.96	96.28	97.84	78.50	
	VODAFONE	0.10	0.42	99.65	0.23	0.35	0.62	2.53	97.89	0	0.08	0.04	100.00	100.00	100.00	100.00	99.07	100.00	100.00	
Tamil Nadu +Chennai	AIRTEL	0.08	0.08	99.41	0.21	0.28	0.70	2.52	98.21	0	0.08	0.09	100.00	100.00	100.00	100.00	96.89	100.00	100.00	
	Rcom GSM	0.86	4.34	99.60	0.09	0.08	0.16	0.80	99.51	0	0.09	0.02	100.00	100.00	100.00	98.89	95.05	100.00	0.00	
UP-East	AIRCEL	0.17	0.67	99.20	0.26	0.20	0.60	2.63	98.07	0	0.00	0.00	100.00	100.00	100.00	97.87	97.70	94.74	100.00	
	AIRTEL	0.67	1.87	95.32	0.45	1.33	1.43	2.78	97.29	0	0.05	0.04	100.00	100.00	100.00	99.84	98.68	100.00	100.00	
	BSNL	1.89	1.90	97.82	0.71	1.81	0.98	2.71	96.50	0	0.10	0.08	98.20	100.00	100.00	99.00	96.38	100.00	100.00	
	IDEA	0.37	1.62	99.03	0.47	0.83	0.85	2.79	96.87	0	0.06	0.06	100.00	100.00	100.00	99.91	99.12	100.00	100.00	
	Rcom GSM	0.58	2.24	99.45	0.12	0.35	0.20	1.23	99.07	0	0.09	0.02	100.00	100.00	100.00	98.62	89.86	100.00	0.00	
	TELENOR	0.09	0.16	99.26	0.18	0.23	0.84	4.10	96.88	0	NA	0.00	100.00	100.00	NA	99.67	99.40	NA	NA	
	TTL CDMA	0.24	0.00	97.89	0.00	0.54	0.10	1.80	99.21	0	0.00	0.00	100.00	100.00	100.00	100.00	97.00	100.00	100.00	
	TTL GSM	0.17	0.40	97.59	0.33	0.77	0.50	2.80	97.35	0	0.00	0.00	100.00	100.00	100.00	98.41	94.24	100.00	100.00	
UP-West	VODAFONE	0.34	1.84	97.84	0.68	1.86	1.15	2.78	96.17	0	0.07	0.05	100.00	100.00	100.00	100.00	96.70	100.00	100.00	
	AIRCEL	0.07	0.20	99.65	0.21	0.19	0.62	2.80	97.66	0	0.00	0.00	100.00	100.00	100.00	98.07	99.23	100.00	100.00	
	AIRTEL	1.33	1.27	98.48	0.46	0.81	1.41	2.58	97.51	0	0.09	0.08	100.00	100.00	100.00	100.00	96.97	100.00	100.00	
	BSNL	1.35	1.78	98.53	0.62	1.19	1.15	2.15	96.23	0	0.01	0.00	100.00	100.00	100.00	100.00	97.15	100.00	100.00	
	IDEA	0.07	0.08	95.88	0.69	1.49	0.69	2.22	95.71	0	0.03	0.00	99.96	100.00	100.00	99.09	97.87	100.00	100.00	
	MTS	0.09	0.00	99.82	0.00	0.00	0.29	2.57	99.73	0	0.02	0.03	100.00	100.00	100.00	99.84	97.10	100.00	100.00	
	Rcom GSM	0.52	1.95	99.53	0.09	0.16	0.16	0.73	99.02	0	0.09	0.03	100.00	100.00	100.00	98.96	93.93	100.00	0.00	
	TELENOR	0.16	0.08	99.66	0.09	0.08	0.57	1.99	98.43	0	NA	0.00	100.00	100.00	NA	99.67	99.20	NA	NA	
	TTL CDMA	0.12	0.10	98.96	0.00	0.06	0.31	2.97	99.71	0	0.00	0.00	100.00	100.00	100.00	100.00	93.08	100.00	100.00	
TTL GSM	0.05	0.00	98.80	0.07	0.09	0.48	2.53	97.73	0	0.00	0.00	100.00	100.00	100.00	97.88	94.81	100.00	100.00		
West Bengal	VODAFONE	0.17	0.30	97.93	0.43	1.72	0.93	2.89	96.34	0	0.06	0.04	100.00	100.00	100.00	100.00	97.15	100.00	100.00	
	AIRCEL	0.35	1.49	97.89	0.27	0.76	1.03	9.84	97.42	0	0.00	0.00	100.00	100.00	100.00	98.78	95.99	100.00	100.00	
	AIRTEL	0.15	0.62	95.50	0.56	0.78	1.42	1.31	95.47	0	0.04	0.06	100.00	100.00	100.00	99.01	97.46	100.00	100.00	
	BSNL	0.46	1.12	97.94	0.83	1.44	1.17	3.21	96.05	0	0.01	0.02	99.06	100.00	100.00	98.00	99.05	100.00	100.00	
	IDEA	0.26	1.10	98.49	0.07	0.10	0.41	0.63	97.93	0	0.07	0.02	100.00	100.00	100.00	95.95	86.33	100.00	100.00	
	MTS	0.48	0.00	99.60	0.00	0.30	0.66	2.86	98.23	0	0.09	0.03	100.00	100.00	100.00	99.14	98.02	100.00	100.00	
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08	0.05	100.00	100.00	100.00	98.93	84.06	100.00	0.00
	TTL CDMA	0.02	0.00	97.79	0.00	0.02	0.10	0.55	97.66	0	0.00	0.00	100.00	100.00	100.00	100.00	98.40	100.00	100.00	
	TTL GSM	0.68	1.90	99.65	0.28	0.00	0.30	1.45	98.51	0	0.00	0.00	100.00	100.00	100.00	96.58	98.80	100.00	100.00	
VODAFONE	0.08	0.20	98.41	0.74	1.59	0.93	2.71	96.01	0	0.07	0.12	100.00	100.00	100.00	100.00	97.50	100.00	100.00		

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 , 2017											
Name of Service Provider	Name of the Service Area / City	Network Availability		Connection Establishment (Accessibility)			Connection Maintenance (Retainability)			POI	
		BTS and Node-B's Accumulated downtime (not available for service) (%age)	Worst affected BTSs and Node-B's due to downtime (%age)	Call Set-up Success Rate (within licensee's own network)	SDCCH/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	
		1	2	3	4	5	6	7	8	9	10
		Benchmark	≤ 2%	≤ 2%	≥ 95%	≤ 1%	≤ 2%	≤ 2%	≤ 3%	≥ 95%	≤ 0.5%
Andhra Pradesh	Aircel	0.07	0.00	98.70	0.62	0.21	0.33	2.86	99.80	0	
	AIRTEL	0.19	0.45	97.03	0.03	0.00	0.32	0.03	98.79	0	
	BSNL	0.97	1.43	98.67	0.80	0.67	0.43	1.77	99.70	0	
	IDEA	0.05	0.03	99.85	0.04	0.05	0.20	0.99	99.73	0	
Assam	BSNL	1.80	1.90	97.00	0.57	0.97	1.57	2.47	96.70	0	
	AIRTEL	0.67	1.35	98.92	0.05	0.01	0.79	1.15	98.52	0	
	Aircel	2.61	19.00	98.20	4.45	0.00	0.62	6.43	98.93	0	
	RTL	1.74	2.49	99.41	0.04	0.01	0.12	0.20	99.88	0	
	Vodafone	0.84	1.34	99.76	0.08	0.06	0.60	2.30	98.84	0	
Bihar	AIRTEL	0.08	0.66	98.03	0.13	0.40	1.12	2.22	98.83	0	
	IDEA	0.70	1.43	99.85	0.02	0.01	0.31	2.49	99.79	0	
	Aircel	0.44	1.66	98.50	0.16	0.04	0.48	4.90	99.08	0	
	RTL	0.11	0.35	99.67	0.02	0.02	0.07	0.47	99.81	0	
	BSNL	1.85	1.80	95.67	0.42	0.88	1.17	2.90	96.48	0	
Chennai	BSNL	0.30	1.43	98.00	0.67	0.93	1.17	1.43	97.67	0	
Delhi	IDEA	0.17	0.00	99.69	0.06	0.04	0.48	2.38	98.12	0	
	RCOM GSM	0.37	1.60	99.96	0.01	0.00	0.50	3.52	99.56	0	
	Vodafone	0.11	0.44	99.39	0.23	0.19	0.50	2.61	98.44	0	
	AIRTEL	0.01	0.00	99.31	0.03	0.04	0.49	2.51	99.12	0	
	MTNL	0.06	0.38	98.58	0.64	1.64	1.65	1.93	96.30	0	
Gujarat	BSNL	1.37	1.70	98.67	0.03	0.30	1.00	1.60	100.00	0	
	AIRTEL	0.22	1.01	99.79	0.00	0.25	0.24	1.96	99.33	0	
	IDEA	0.12	0.52	99.80	0.08	0.04	0.34	1.70	98.73	0	
	TTSL	0.04	0.03	99.85	0.00	0.02	0.29	2.29	99.82	0	
	Vodafone	0.17	0.35	99.68	0.11	0.07	0.22	1.64	99.38	0	
Haryana	AIRTEL	0.09	0.10	99.46	0.00	0.00	0.11	0.26	97.92	0	
	BSNL	0.93	0.47	99.00	0.83	0.80	0.87	1.63	97.37	0	
	IDEA	0.07	0.04	99.68	0.17	0.09	0.36	2.31	98.56	0	
	TTSL	0.24	1.08	99.84	0.41	0.17	0.17	1.97	99.82	0	
	Vodafone	0.17	0.54	99.77	0.11	0.01	0.43	2.72	98.23	0	

Annexure 4.2 (Contd.)

Himachal Pradesh	RTL	0.36	1.19	99.62	0.02	0.10	0.07	0.42	99.88	0
	AIRTEL	0.13	0.14	98.79	0.01	0.00	0.77	1.00	98.73	0
	BSNL	1.07	1.77	98.00	0.40	0.80	0.53	1.73	99.50	0
	IDEA	0.25	0.24	99.63	0.18	0.09	0.81	2.07	97.16	0
Jammu & Kashmir	Aircel	0.62	3.98	98.42	0.10	0.04	1.30	12.42	99.01	0
	AIRTEL	0.22	0.28	98.62	0.02	0.02	0.65	1.28	98.92	0
	BSNL	0.33	0.50	98.00	0.77	1.33	1.33	1.97	98.40	0
	IDEA	0.34	1.02	99.33	0.38	0.35	1.33	2.10	97.46	0
	RCOM GSM	0.73	1.82	99.98	0.02	0.02	0.04	0.26	99.70	0
Karnataka	Aircel	0.20	0.24	99.32	0.31	0.04	0.30	2.85	99.80	0
	TTSL	0.10	0.22	99.60	0.57	0.10	0.18	1.25	99.11	0
	Vodafone	0.22	1.07	99.49	0.01	0.04	0.13	0.57	99.74	0
	BSNL	0.93	1.20	97.67	0.77	1.03	0.70	2.80	99.60	0
	AIRTEL	0.15	0.48	99.54	0.07	0.11	0.24	1.53	99.68	0
Kerala	Aircel	0.15	0.17	99.04	0.50	0.01	0.69	2.85	99.78	0
	TTSL	0.03	0.00	99.81	0.00	0.00	0.15	1.39	99.81	0
	Vodafone	0.02	0.00	99.78	0.00	0.03	0.20	0.84	99.62	0
	BSNL	0.20	1.13	95.67	0.10	0.17	0.90	2.80	99.90	0
	IDEA	0.06	0.09	99.55	0.25	0.17	0.30	1.28	98.07	0
	AIRTEL	0.05	0.01	99.59	0.00	0.02	0.44	2.84	98.00	0
Kolkata	BSNL	1.37	1.67	96.33	0.60	0.67	1.23	1.30	99.80	0
	AIRTEL	0.00	0.00	99.53	0.00	0.00	0.30	1.66	99.04	0
	IDEA	0.25	0.45	99.83	0.00	0.02	0.22	0.08	99.78	0
	Aircel	0.19	0.46	99.13	0.22	0.09	0.35	2.98	98.19	0
	RTL	0.58	1.64	99.81	0.27	0.03	0.11	0.51	99.87	0
	Vodafone	0.11	0.48	99.86	0.01	0.03	0.31	1.70	98.97	0
Madhya Pradesh	RTL	0.88	1.89	99.84	0.20	0.01	0.08	0.30	99.84	0
	TTSL	0.02	0.00	99.80	0.01	0.01	0.28	2.16	99.85	0
	AIRTEL	0.10	0.20	99.69	0.01	0.03	0.31	1.38	99.22	0
	BSNL	1.78	1.67	97.33	0.58	0.47	0.70	2.50	97.52	0
	IDEA	0.10	0.28	99.76	0.07	0.05	0.67	2.40	98.53	0
Maharashtra	TTML	0.00	0.20	99.81	0.01	0.03	0.30	2.17	100.00	0
	Vodafone	0.22	0.88	99.69	0.26	0.14	0.27	1.97	99.21	0
	AIRTEL	0.03	0.00	99.75	0.02	0.29	0.50	0.66	98.77	0
	BSNL	1.80	1.50	96.00	0.67	1.40	1.03	2.47	95.87	0
	IDEA	0.15	0.45	99.57	0.36	0.17	0.40	1.50	97.83	0
Mumbai	AIRTEL	0.12	0.00	99.29	0.02	0.14	0.56	1.94	99.93	0
	MTNL	0.85	1.01	96.93	0.63	0.28	1.68	2.34	98.81	0
	RCOM GSM	0.59	1.92	99.90	0.01	0.01	0.11	0.44	99.69	0
	Vodafone	0.41	0.00	99.61	0.00	0.00	0.56	2.70	98.77	0

Annexure 4.2 (Contd.)

North East	AIRTEL	1.25	1.65	97.83	0.15	0.01	1.30	1.34	98.43	0
	BSNL	1.72	1.80	97.67	0.68	1.67	1.58	2.20	97.20	0
	Aircel	5.64	33.38	98.05	0.25	0.15	1.00	11.68	98.88	0
	RTL	1.26	2.35	99.87	0.03	0.13	0.11	0.54	99.81	0
	Vodafone	1.07	1.23	99.50	0.10	0.06	1.43	2.34	98.80	0
Orissa	AIRTEL	0.20	0.34	98.99	0.03	0.17	0.72	1.53	98.71	0
	BSNL	1.20	1.83	96.00	0.83	1.87	1.80	2.47	97.90	0
	Aircel	0.38	1.12	99.28	0.04	0.03	0.73	7.98	98.93	0
	RTL	0.20	1.00	99.67	0.04	0.01	0.15	1.10	99.86	0
	Vodafone	0.06	0.16	99.85	0.02	0.02	0.30	2.17	98.82	0
Punjab	AIRTEL	0.07	0.07	98.89	0.29	0.15	0.30	1.89	99.78	0
	BSNL	0.40	1.30	100.00	0.23	0.20	0.00	1.50	98.83	0
	IDEA	0.07	0.11	99.85	0.06	0.06	0.27	1.66	99.60	0
	Aircel	0.30	0.52	99.57	0.12	0.00	0.27	2.99	99.16	0
	RCOM GSM	0.44	1.90	99.94	0.01	0.01	0.04	0.46	99.76	0
	TTSL	0.07	0.07	99.71	0.25	0.06	0.15	1.32	99.12	0
	Vodafone	0.22	1.35	99.68	0.02	0.00	0.42	1.53	99.56	0
Rajasthan	AIRTEL	0.21	0.52	98.28	0.02	0.03	0.63	1.23	98.88	0
	RCOM GSM	0.75	1.88	99.88	0.02	0.02	0.10	0.69	99.55	0
	TTSL	0.00	0.00	100.00	0.00	0.00	0.00	0.00	100.00	0
	Vodafone	0.24	0.97	99.81	0.02	0.02	0.38	2.95	98.79	0
	BSNL	1.43	1.60	99.33	0.60	0.43	0.97	2.73	96.80	0
	IDEA	0.07	0.07	99.83	0.00	0.00	0.28	2.02	99.85	0
Tamil Nadu	Aircel	0.21	0.73	98.55	0.46	0.05	0.49	4.84	98.84	0
	Vodafone	0.09	0.29	99.77	0.12	0.03	0.31	2.15	99.11	0
	BSNL	0.37	1.90	99.00	0.00	0.30	0.37	1.53	99.60	0
	AIRTEL	0.07	0.05	99.74	0.09	0.11	0.25	2.10	99.34	0
UP-East	IDEA	0.39	1.35	99.68	0.67	0.11	0.93	2.52	98.43	0
	Aircel	0.16	0.42	99.40	0.00	0.00	0.53	2.88	99.70	0
	AIRTEL	0.69	1.92	99.52	0.34	0.48	0.42	2.56	99.58	0
	BSNL	1.77	1.67	97.67	0.83	0.67	1.43	2.87	96.50	0
	Vodafone	0.48	1.96	99.67	0.06	0.03	0.43	2.73	99.27	0
UP-West	IDEA	0.30	0.59	98.47	0.75	0.53	0.23	1.79	98.42	0
	AIRTEL	1.52	1.57	99.13	0.02	0.00	0.53	1.10	98.89	0
	BSNL	1.45	0.95	97.67	0.78	0.85	0.67	2.40	96.43	0
	TTSL	0.06	0.00	99.63	0.28	0.09	0.19	2.20	99.12	0
West Bengal	Vodafone	0.25	0.90	99.71	0.12	0.16	0.40	2.79	98.86	0
	AIRTEL	0.17	0.65	98.95	0.02	0.11	0.71	1.32	99.03	0
	BSNL	0.32	0.40	97.17	0.62	1.13	0.78	3.92	95.68	0
	Aircel	0.35	1.77	96.92	0.28	1.24	0.39	4.94	98.19	0
	RTL	0.50	1.70	98.31	0.02	0.07	0.17	0.74	99.75	0
Vodafone	0.08	0.20	99.63	0.12	0.10	0.39	2.62	98.45	0	

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

Quarterly Performance Monitoring Report (PMR) on QoS of Basic Telephone Service (Wireline) for QE September,2017

Sl. No.	Name of Service Area	Name of Service Provider	Faults incidences (No. of faults/100 Subs./month)	Fault Repair				Rent Rebate	Mean Time to Repair (MTTR)	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 and Billing-credibility - post paid	Metering and billing credibility - pre paid	Resolution of billing/charging/valuation 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										
																			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
1	A&N	BSNL	5.00	87.00%	100.00%	86.00%	100%	0	7.00	0.00%	0.00%	0.00%	98.00%	100.00%	100.00%	98.86%	97.33%	100.00%	100.00%									
2	AP	Reliance	1.38	100.00%	100.00%	NA	NA	0	5.1	0.00%	0.01%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%									
3		TTSL	7.12	91.22%	100.00%	NA	NA	206	7.28	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.07%	90.93%	99.83%	100.00%									
4		Vodafone	0.20	100.00%	100.00%	NA	NA	NA	1.38	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA									
5		Bharti	4.57	90.74%	100.00%	NA	NA	524	4.31	0.00%	0.04%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%									
6		BSNL	5.00	99.00%	100.00%	99.00%	100%	260	7.00	0.00%	0.01%	0.00%	100.00%	100.00%	100.00%	97.85%	97.63%	100.00%	100.00%									
7	ASM	Vodafone	2.24	100.00%	100.00%	NA	NA	NA	2.50	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA									
8		BSNL	4.00	95.00%	100.00%	94.00%	100%	118	3.00	0.00%	0.03%	0.00%	100.00%	100.00%	100.00%	98.89%	98.67%	100.00%	100.00%									
9	BH	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%									
10		TTSL	0.79	95.77%	100.00%	NA	NA	0	4.26	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.07%	75.90%	100.00%	100.00%									
11		Vodafone	2.99	100.00%	100.00%	NA	NA	NA	2.26	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA									
12		BSNL	4.00	95.00%	100.00%	95.00%	100%	0	5.00	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	99.28%	98.33%	100.00%	100.00%									
13	Chattisgarh	BSNL	3.00	97.00%	100.00%	97.00%	100%	470	6.00	0.00%	0.01%	0.01%	99.00%	100.00%	100.00%	98.08%	98.06%	100.00%	100.00%									
14	CN	Reliance	0.02	100.00%	100.00%	NA	NA	0	4.7	0.00%	0.02%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%									
15		BSNL	4.00	96.00%	100.00%	96.00%	100%	1057	6.00	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	97.88%	97.27%	100.00%	100.00%									
16	DEL	Reliance	0.02	100.00%	100.00%	NA	NA	0	5.1	0.00%	0.02%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%									
17		TTSL	1.39	90.21%	100.00%	NA	NA	4	7.21	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.88%	76.49%	99.92%	100.00%									
18		Vodafone	0.45	100.00%	100.00%	NA	NA	NA	2.55	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA									
19		Bharti	3.93	89.49%	100.00%	NA	NA	1055	5.11	0.00%	0.02%	NA	100.00%	100.00%	100.00%	100.00%	94.00%	100.00%	100.00%									
20		MTNL	5.86	84.80%	98.06%	NA	NA	12275	5.45	0.00%	0.02%	0.00%	99.71%	100.00%	100.00%	99.81%	99.91%	100.00%	100.00%									
21	GUJ	Reliance	0.28	100.00%	100.00%	NA	NA	0	4.8	0.00%	0.03%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%									
22		TTSL	2.06	73.82%	100.00%	NA	NA	52	17.38	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.01%	78.23%	99.86%	100.00%									
23		Vodafone	0.33	100.00%	100.00%	NA	NA	NA	2.27	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA									
24		Bharti	1.00	87.92%	100.00%	NA	NA	117	7.31	0.00%	0.03%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%									
25		BSNL	5.00	96.00%	100.00%	93.00%	100%	606	5.00	0.00%	0.02%	0.00%	100.00%	100.00%	100.00%	97.71%	97.72%	100.00%	100.00%									

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26		Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
27	HP	Vodafone	1.11	100.00%	100.00%	NA	NA	NA	2.45	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
28		BSNL	6.00	88.00%	100.00%	92.00%	100%	495	6.00	0.00%	0.02%	0.00%	98.32%	100.00%	100.00%	96.72%	100.00%	100.00%	100.00%
29		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
30		Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
31	HR	TTSL	0.36	96.00%	100.00%	NA	NA	0	7.01	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.37%	86.79%	100.00%	100.00%
32		Bharti	6.89	94.47%	100.00%	NA	NA	20	4.12	0.00%	0.03%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%
33		BSNL	5.00	97.00%	100.00%	96.00%	100%	367	6.00	0.00%	0.08%	0.00%	100.00%	100.00%	100.00%	98.41%	100.00%	100.00%	100.00%
34	J&K	BSNL	5.00	95.00%	100.00%	95.00%	100%	91	7.00	0.00%	0.01%	0.00%	98.00%	100.00%	100.00%	96.89%	100.00%	100.00%	100.00%
35	JHAR	BSNL	3.00	99.00%	100.00%	97.00%	100%	503	5.00	0.00%	0.09%	0.00%	98.00%	100.00%	100.00%	98.17%	98.00%	100.00%	100.00%
36		Vodafone	0.28	100.00%	NA	NA	NA	NA	2.51	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
37		Reliance	0.22	100.00%	100.00%	NA	NA	0	4.6	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
38	KER	TTSL	0.84	82.44%	100.00%	NA	NA	1	10.93	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	97.84%	79.63%	100.00%	100.00%
39		Bharti	5.01	94.51%	100.00%	NA	NA	252	7.17	0.00%	0.08%	NA	100.00%	100.00%	100.00%	100.00%	94.00%	100.00%	100.00%
40		BSNL	5.00	93.00%	100.00%	91.00%	100%	490	7.00	0.00%	0.02%	0.00%	99.82%	100.00%	100.00%	95.69%	95.07%	100.00%	100.00%
41		Vodafone	0.55	100.00%	100.00%	NA	NA	NA	3.34	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
42	KOL	Reliance	0.04	100.00%	100.00%	NA	NA	0	5.5	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
43		Bharti	3.30	91.79%	100.00%	NA	NA	80	7.71	0.00%	0.01%	NA	100.00%	100.00%	100.00%	100.00%	94.00%	100.00%	100.00%
44		BSNL	7.00	90.00%	100.00%	NA	NA	388	9.00	0.00%	0.00%	0.00%	98.57%	100.00%	100.00%	98.03%	98.67%	100.00%	100.00%
45		Vodafone	0.34	100.00%	100.00%	NA	NA	NA	1.57	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
46		Reliance	0.02	100.00%	100.00%	NA	NA	0	5.8	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
47	KTK	TTSL	0.50	90.55%	100.00%	NA	NA	6	7.86	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.28%	75.46%	100.00%	100.00%
48		Bharti	4.33	85.42%	100.00%	NA	NA	3785	5.2	0.00%	0.07%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
49		BSNL	4.00	95.00%	100.00%	97.00%	100%	5099	7.00	0.00%	0.10%	0.00%	98.00%	100.00%	100.00%	96.55%	96.17%	100.00%	100.00%
50		Bharti	0.82	93.79%	100.00%	NA	NA	95	4.93	0.00%	0.01%	NA	100.00%	100.00%	100.00%	100.00%	92.00%	100.00%	100.00%
51		BSNL	5.00	91.00%	100.00%	86.00%	100%	1673	7.00	0.00%	0.01%	0.00%	100.00%	100.00%	100.00%	97.08%	97.09%	100.00%	100.00%
52	MH	Reliance	0.07	100.00%	100.00%	NA	NA	0	5.9	0.00%	0.01%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
53		Vodafone	0.40	100.00%	100.00%	NA	NA	NA	1.15	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
54		TTSL	1.82	91.50%	100.00%	NA	NA	179	7.51	0.00%	0.00%	0.00%	98.31%	100.00%	100.00%	97.05%	75.19%	100.00%	100.00%
55		Vodafone	2.05	100.00%	100.00%	NA	NA	NA	2.33	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
56		Reliance	0.21	100.00%	100.00%	NA	NA	0	5.1	0.00%	0.01%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
57	MP	TTSL	3.35	100.00%	100.00%	NA	NA	0	2.05	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	97.63%	79.65%	100.00%	100.00%
58		Bharti	5.57	86.02%	100.00%	NA	NA	898	5.26	0.00%	0.06%	NA	100.00%	100.00%	100.00%	100.00%	94.00%	100.00%	100.00%
59		BSNL	5.00	92.00%	100.00%	89.00%	100%	394	4.00	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.10%	98.08%	100.00%	100.00%
60		Vodafone	0.39	100.00%	100.00%	NA	NA	NA	7.52	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
61		Bharti	0.52	91.54%	100.00%	NA	NA	280	5.99	0.00%	0.01%	NA	100.00%	100.00%	100.00%	100.00%	92.00%	100.00%	100.00%
62	MUM	MTNL	3.62	93.86%	99.86%	NA	NA	23529	6.52	0.00%	0.04%	NA	99.44%	100.00%	100.00%	96.15%	95.53%	99.97%	100.00%
63		Reliance	0.04	100.00%	100.00%	NA	NA	0	5.2	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
64		TTSL	4.20	80.69%	100.00%	NA	NA	528	12.82	0.00%	0.00%	0.00%	99.39%	100.00%	100.00%	98.43%	84.50%	99.97%	100.00%
65	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
66	NE-I	BSNL	4.00	91.00%	100.00%	95.00%	100%	67	7.00	0.00%	0.05%	0.00%	98.00%	100.00%	100.00%	97.58%	97.67%	100.00%	100.00%
67	NE-II	BSNL	2.00	95.00%	100.00%	100.00%	100%	118	5.00	0.00%	0.01%	0.00%	100.00%	100.00%	100.00%	99.13%	98.33%	100.00%	100.00%

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68	OR	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
69		TTSL	0.70	96.67%	100.00%	NA	NA	0	2.88	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	97.90%	98.78%	100.00%	100.00%
70		BSNL	6.00	94.00%	100.00%	92.00%	100%	0	5.00	0.00%	0.00%	0.00%	99.00%	100.00%	100.00%	98.53%	98.00%	100.00%	100.00%
71		Vodafone	2.07	100.00%	100.00%	NA	NA	NA	1.21	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
72	PB	Vodafone	0.87	100.00%	100.00%	NA	NA	NA	1.47	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
73		Reliance	0.03	100.00%	100.00%	NA	NA	0	5.8	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
74		TTSL	0.79	88.31%	100.00%	NA	NA	0	5.91	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.27%	79.48%	100.00%	100.00%
75		Bharti	5.01	87.45%	100.00%	NA	NA	180	6.48	0.00%	0.02%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%
76		Quadrant	4.84	95.08%	100.00%	100.00%	100%	0	5.52	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	96.00%	95.00%	100.00%	100.00%
77	RAJ	BSNL	5.00	93.00%	100.00%	93.00%	100%	494	6.00	0.00%	0.03%	0.00%	98.00%	100.00%	100.00%	95.00%	100.00%	100.00%	100.00%
78		Reliance	0.07	100.00%	100.00%	NA	NA	0	6.4	0.00%	0.03%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
79		TTSL	0.56	95.00%	100.00%	NA	NA	0	3.55	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	96.92%	76.21%	100.00%	100.00%
80		Vodafone	0.36	100.00%	100.00%	NA	NA	NA	2.09	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
81		Bharti	4.28	85.86%	100.00%	NA	NA	102	5.55	0.00%	0.03%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%
82		Sistema	3.82	86.47%	100.00%	86.41%	100%	0	9.29	0.00%	0.04%	0.00%	100.00%	100.00%	100.00%	98.93%	96.59%	100.00%	100.00%
83		BSNL	6.00	96.00%	100.00%	97.00%	100%	520	6.00	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	97.30%	100.00%	100.00%	100.00%
84	TN	Reliance	0.04	100.00%	100.00%	NA	NA	0	6.0	0.00%	0.04%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
85		TTSL	0.91	96.26%	100.00%	NA	NA	5	4.56	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.49%	75.49%	100.00%	100.00%
86		Vodafone	0.64	100.00%	100.00%	NA	NA	NA	2.29	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	100.00%	NA
87		Bharti	6.37	92.73%	100.00%	NA	NA	1055	6.75	0.00%	0.14%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
88		BSNL	3.00	93.00%	100.00%	91.00%	100%	2389	8.00	0.00%	0.01%	0.00%	100.00%	100.00%	100.00%	97.55%	100.00%	100.00%	100.00%
89	UPE	Reliance	0.03	100.00%	100.00%	NA	NA	0	4.7	0.00%	0.01%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
90		TTSL	5.82	100.00%	100.00%	NA	NA	0	2.08	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.41%	98.04%	100.00%	100.00%
91		Vodafone	0.21	100.00%	100.00%	NA	NA	NA	1.19	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
92		Bharti	6.40	86.97%	100.00%	NA	NA	117	7.31	0.00%	0.02%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%
93	UPW	BSNL	4.00	94.00%	100.00%	93.00%	100%	592	5.00	0.00%	0.09%	0.00%	100.00%	100.00%	100.00%	97.46%	100.00%	100.00%	100.00%
94		Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
95		TTSL	0.00	100.00%	100.00%	NA	NA	0	0.00	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	97.88%	100.00%	100.00%	100.00%
96		Vodafone	0.45	100.00%	100.00%	NA	NA	NA	1.53	0.00%	0.00%	NA	NA	NA	NA	99.00%	100.00%	NA	NA
97		Bharti	6.86	86.97%	100.00%	NA	NA	80	5.11	0.00%	0.03%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%
98		BSNL	5.00	96.00%	100.00%	95.00%	100%	400	5.00	0.00%	0.05%	0.00%	100.00%	100.00%	100.00%	97.05%	100.00%	100.00%	100.00%
99	Uttaranchal	BSNL	5.00	98.00%	100.00%	99.00%	100%	105	4.00	0.00%	0.00%	0.00%	98.00%	100.00%	100.00%	96.86%	100.00%	100.00%	100.00%
100	West Bengal	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00%	0.00%	NA	100%	100.00%	NA	95.17%	96.87%	100.00%	100.00%
101		BSNL	5.00	92.00%	100.00%	93.00%	100%	765	4.00	0.00%	0.01%	0.00%	100.00%	100.00%	100.00%	98.79%	97.67%	100.00%	100.00%
102		TTSL	1.45	98.78%	100.00%	NA	NA	0	2.85	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%	98.23%	73.52%	100.00%	100.00%
103		Vodafone	1.67	100.00%	100.00%	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 2017

Sl. No.	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 (for wired broadband access) in %age	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			User reference point at POP/ISP Gateway node to International Gateway (UGSP/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
1	BSNL	All India	100.00%	93.64%	99.69%	198110	0.07%	100.00%	100.00%	97.06%	97.88%	NA	0	66.10%	90.63%	99.65%	0.10%	18	181	NA
2	Bharti Airtel	Andhra Pradesh	100.00%	91.17%	100.00%	0	0.04%	100.00%	100.00%	91.91%	94.95%	0	0	50.82%	98.51%	99.99%	0.00%	27	48	NA
		Delhi	100.00%	91.86%	99.36%	726	0.03%	100.00%	100.00%	89.68%	93.50%	0	0	81.64%	114.00%	99.99%	0.00%	41	75	NA
		Gujarat	100.00%	91.75%	99.58%	26	0.03%	100.00%	100.00%	86.28%	90.54%	0	NA	NA	100.00%	99.99%	0.11%	33	NA	NA
		Haryana	100.00%	94.25%	99.60%	11	0.01%	100.00%	100.00%	88.82%	93.73%	0	NA	NA	120.00%	99.97%	0.00%	33	NA	NA
		Karnataka	100.00%	90.14%	99.86%	1447	0.06%	100.00%	100.00%	89.68%	93.50%	0	0	66.60%	101.38%	99.94%	0.00%	30	40	NA
		Kerala	100.00%	93.60%	99.95%	57	0.06%	100.00%	100.00%	92.27%	95.32%	0	NA	NA	102.05%	99.99%	0.00%	50	34	NA
		Kolkata	100.00%	93.10%	99.78%	164	0.01%	100.00%	100.00%	87.77%	92.14%	0	0	45.75%	100.00%	100.00%	0.00%	67	72	NA
		Madhya Pradesh	100.00%	90.75%	99.40%	104	0.02%	100.00%	100.00%	88.00%	93.44%	0	0	60.47%	98.17%	99.95%	0.00%	84	68	NA
		Maharashtra	100.00%	95.56%	99.53%	21	0.01%	100.00%	100.00%	89.00%	93.00%	0	NA	NA	100.00%	99.99%	0.40%	50	NA	NA
		Mumbai	100.00%	95.83%	99.52%	49	0.02%	100.00%	100.00%	89.00%	93.00%	0	0	76.34%	100.00%	99.96%	0.13%	24	56	NA
		Punjab	100.00%	92.37%	99.45%	70	0.02%	100.00%	100.00%	89.42%	93.29%	0	0	52.00%	100.00%	99.99%	0.00%	34	80	NA
		Rajasthan	100.00%	90.08%	99.80%	9	0.01%	100.00%	100.00%	89.00%	94.00%	0	NA	NA	100.00%	99.98%	0.00%	65	NA	NA
		Tamilnadu	100.00%	95.83%	99.98%	655	0.09%	100.00%	100.00%	93.00%	96.04%	0	0	65.19%	102.05%	99.97%	0.00%	33	34	NA
Uttar Pradesh - East	100.00%	90.06%	99.20%	70	0.01%	100.00%	100.00%	88.84%	93.13%	0	0	57.80%	105.00%	99.95%	0.00%	39	81	NA		
Uttar Pradesh - West	100.00%	90.28%	99.18%	33	0.01%	100.00%	100.00%	89.37%	93.91%	0	NA	NA	103.50%	99.99%	0.00%	48	NA	NA		
3	MTNL	Delhi & Mumbai	100.00%	83.41%	94.66%	17694	0.130%	100.00%	100.00%	92.74%	94.95%	Nil	0	78.67%	89.50%	99.84%	0.54%	45	271	NA
4	Airlink Communications Pvt. Ltd.	All India	100.00%	90.92%	99.10%	0	NA	100.00%	NA	96.28%	100.00%	0	0	79.79%	97.00%	99.93%	0.17%	120	350	NA
5	Alliance Broadband	Kolkata	100.00%	93.67%	99.33%	Nil	1.19%	100.00%	Nil	81.67%	90.77%	0	0	61.31%	98.70%	99.27%	0.52%	80	213	572
6	Asianet Satellite	Kerala	100.00%	90.19%	99.32%	Nil	1.89%	100.00%	100.00%	60.50%	80.43%	Nil	0	65.34%	90.00%	99.40%	1.00%	50	270	NA
7	Atria Convergence	All India	100.00%	88.53%	99.38%	35446	0.55%	100.00%	Nil	49.00%	63.00%	0	0	59.10%	90.00%	100.00%	1.00%	50	300	NA
8	Broadband Pacenet India Pvt. Ltd.	All India	100.00%	90.40%	99.10%	23	1.00%	100.00%	0.00	84.00%	90.00%	0	0	58.50%	90.00%	99.30%	0.45%	75	260	0
9	Citycom Networks	All India	100.00%	91.30%	99.10%	2059	0.30%	100.00%	100.00%	74.20%	77.70%	0	0	21.70%	86.70%	98.90%	0.00%	27	142	NA
10	DEN Networks Ltd.	All India	100.00%	96.56%	99.83%	Nil	NA	NA	NA	91.00%	94.00%	Nil	Nil	75.47%	98.00%	98.60%	0.00%	NA	270	NA
11	DNA Infotel Pvt. Ltd.	Maharashtra	100.00%	90.78%	99.15%	0	0.04%	100.00%	NA	60.50%	81.14%	0	0	80.00%	80.00%	99.64%	1.00%	4	255	600
12	D-VoiS Broadband	All India	100.00%	94.00%	100.00%	-	0.00%	Nil	Nil	83.00%	88.00%	0	Nil	Nil	90.00%	99.99%	0.10%	120	350	800
13	Excitel Broadband Private Limited	Delhi	100.00%	91.28%	99.23%	920	NA	NA	NA	71.00%	84.00%	Nil	Nil	76.00%	99.20%	98.40%	0.00%	5	199	NA

Annexure 4.4 (Contd.)

14	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
15	Fusionnet Web Services Pvt. Ltd.	All India	100.00%	94.30%	99.20%	0	0.00%	100.00%	100.00%	89.70%	94.00%	0	0	74.00%	100.00%	100.00%	1.00%	120	350	NA
16	GBPS Networks Pvt. Ltd.	Pune, Maharashtra	100.00%	91.29%	99.13%	Nil	0.00%	100.00%	Nil	61.67%	85.06%	0	0	80.00%	80.00%	99.68%	1.00%	4	255	600
17	Geocity Network Solutions	Delhi	100.00%	94.00%	100.00%	0	0.00%	100.00%	100.00%	85.00%	90.00%	0	0	88.00%	87.00%	99.30%	0.50%	60	300	400
18	GPL Broadband Pvt.Ltd.	All India	100.00%	96.00%	99.00%	202	0.06%	100.00%	NA	95.00%	99.00%	NA	0	77.47%	91.00%	99.67%	0.00%	11	300	NA
19	Hathway Cable & Datacom Ltd.	Andhra Pradesh	100.00%	93.14%	99.50%	381	1.62%	100.00%	100.00%	84.00%	94.00%	0	0	86.00%	90.00%	99.80%	0.02%	88	300	NA
		Delhi	100.00%	96.67%	99.11%	69	0.90%	100.00%	100.00%	75.00%	85.67%	0	0	87.33%	86.00%	99.99%	0.42%	115	295	NA
		Gujarat	100.00%	93.13%	99.47%	0	NA	NA	NA	87.20%	97.55%	0	0	86.67%	90.00%	99.70%	0.30%	97	265	NA
		Karnataka	100.00%	90.18%	99.07%	163	1.85%	100.00%	100.00%	92.33%	95.00%	0	0	87.00%	90.00%	99.99%	0.31%	86	290	NA
		Maharashtra & Goa	100.00%	94.00%	99.00%	2756	1.03%	100.00%	100.00%	83.00%	89.00%	0	0	87.00%	90.00%	99.65%	0.31%	105	290	NA
		Madhya Pradesh	99.58%	100.00%	100.00%	0	NA	NA	NA	87.00%	90.00%	0	0	86.00%	100.00%	99.85%	0.07%	100	300	NA
		Punjab	100.00%	98.00%	99.00%	0	NA	NA	NA	82.00%	90.00%	0	0	86.00%	85.00%	99.99%	0.40%	110	325	NA
		Uttar Pradesh - West	100.00%	97.67%	99.00%	0	0.61%	100.00%	100.00%	75.00%	86.00%	0	0	87.00%	85.00%	99.98%	0.42%	110	315	NA
		Kolkata	100.00%	93.26%	99.34%	0	NA	NA	NA	68.00%	89.00%	0	0	80.44%	100.00%	99.37%	1.39%	10	256	NA
		Chennai	100.00%	96.00%	99.00%	0	NA	NA	NA	85.00%	90.00%	0	0	77.00%	100.00%	99.77%	0.28%	80	287	NA
20	Honesty Net Solutions (I) Pvt. Ltd.	Mumbai	100.00%	93.00%	100.00%	0	Nil	100.00%	0.00	67.00%	100.00%	0	NA	NA	95.00%	99.00%	1.00%	7	66	NA
21	Indinet Service Pvt Ltd	All India	100.00%	91.00%	100.00%	0	0.00%	100.00%	100.00%	86.00%	92.00%	0	0	86.00%	99.00%	98.49%	0.50%	43	261	0
22	Limras Eronet Broadband	All India	100.00%	99.00%	100.00%	0	1.00%	100.00%	0.00	90.00%	100.00%	0	0	82.00%	90.00%	99.00%	1.00%	45	241	-
23	Nextra Teleservices Pvt.	Delhi	100.00%	92.43%	99.40%	4690	1.81%	100.00%	100.00%	88.00%	93.00%	0	0	85.00%	100.00%	100.00%	1.00%	120	350	NA
24	Ortel Communications	All India	100.00%	94.60%	99.41%	NA	NA	NA	NA	100.00%	100.00%	0	0	53.22%	92.00%	99.60%	0.00%	81	223	NA
25	Planet E-Shop Holdings India Ltd. (formerly IndusInd Media)	All India	100.00%	97.00%	99.00%	10	0.00%	100.00%	100.00%	100.00%	100.00%	0	0	44.67%	80.00%	98.00%	1.00%	45	260	NA
26	Quadrant Televentures	Punjab	100.00%	96.72%	100.00%	0	0.02%	100.00%	100.00%	78.00%	83.33%	Nil	Nil	70.00%	100.00%	99.94%	0.00%	80	280	NA
27	Quest Consultancy Pvt. Ltd.	Gujarat	100.00%	95.00%	100.00%	Nil	Nil	100.00%	Nil	99.00%	99.00%	0	Nil	82.00%	99.00%	99.00%	0.30%	13	267	NA
28	RailTel Corporation	All India (Pan India)	100.00%	97.60%	100.00%	Nil	0.00%	Nil	Nil	93.14%	97.93%	0	0	40.42%	100.00%	99.95%	1.00%	120	350	NA
29	Rajesh Multichannel	Mumbai	100.00%	98.00%	100.00%	0	0.00%	100.00%	100.00%	99.00%	98.00%	0	0	87.00%	86.00%	99.00%	0.00%	46	250	500
30	Reliance Com. (RCL)	All India	100.00%	100.00%	100.00%	Nil	0.07%	100.00%	100.00%	91.00%	95.00%	0	Nil	76.34%	92.00%	99.00%	0.53%	1	6	0
31	Siti Broadband	All India	100.00%	91.41%	99.28%	0	NA	NA	NA	90.00%	91.00%	0	0	85.00%	90.00%	99.73%	0.00%	85	279	NA
32	Joister Infoserve Pvt. Ltd.(Formerly Syscon	Maharashtra	100.00%	96.00%	100.00%	Nil	0.00%	100.00%	NA	79.00%	87.67%	0	0	47.00%	99.00%	100.00%	1.00%	1	47	80
		Mumbai	100.00%	99.33%	100.00%	Nil	0.00%	100.00%	0.00	82.33%	88.00%	0	0	66.00%	99.00%	100.00%	0.00%	1	47	80
33	Tata (TTSL)	All India (Pan India)	100.00%	79.43%	90.85%	0	0.22%	100.00%	100.00%	72.13%	78.86%	0	0	71.21%	99.46%	99.45%	0.08%	61	65.66	0
34	TTML	Maharashtra & Goa	100.00%	75.90%	89.50%	2334	0.10%	100.00%	100.00%	65.99%	73.10%	0	0	70.39%	91.06%	99.83%	0.00%	49	179	0
35	Vasai Cable	Mumbai	100.00%	94.03%	100.00%	Nil	0.07%	100.00%	Nil	81.89%	89.50%	Nil	0	63.00%	90.00%	100.00%	1.00%	4	255	NA
36	Wan and Lan Internet Pvt.	Mumbai	100.00%	100.00%	100.00%	0	0.00%	100.00%	0.00	90.00%	90.00%	0	0	90.00%	90.00%	99.90%	0.00%	20	40	80
37	Wish Net Pvt. Ltd.	West Bengal	100.00%	98.88%	100.00%	0	0.03%	100.00%	NA	81.67%	97.67%	0	0	71.43%	100.00%	99.88%	1.00%	20	NA	NA
		Kolkata	100.00%	98.92%	100.00%	0	0.01%	100.00%	NA	81.67%	97.67%	0	0	69.79%	100.00%	99.88%	1.00%	40	NA	NA
38	Yashash Cable Network Pvt	Karnataka	100.00%	91.06%	99.46%	46	0.00%	NA	NA	78.26%	80.13%	0	0	0.00%	80.00%	99.00%	1.00%	30	280	NA
39	You Broadband	All India	100.00%	95.65%	99.80%	6416	0.00%	Nil	100.00%	90.54%	93.91%	0	0	75.30%	87.30%	99.73%	0.00%	9	271	NA

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

S.No	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
1	9X Media Private Ltd	1	9XM	SD
2	ABP News Network Pvt Limited	2	ABP Ananda	SD
		3	ABP Majha	SD
3	AETN 18 Media Pvt Limited	4	The History Channel	SD
		5	FY1 TV18	HD
4	Asianet Communications Limited	6	Asianet	SD
		7	Asianet Plus	SD
		8	Asianet Movies	SD
		9	Suvarna Plus	SD
		10	Star Suvarna	HD
		11	Asianet HD	HD
5	AXN Networks India Private Limited	12	Star Suvarna (Earlier name "Suvarna")	SD
		13	SONY ESPN (Earlier name "SONY KIX")	SD
6	Bangla Entertainment Private Limited	14	AXN HD	HD
		15	AATH	SD
7	BBC Global News India Private Limited	16	BBC World News	SD
8	Bennett, Coleman & Company Limited	17	Zoom	SD
		18	Romedy Now	SD
		19	MN+(Earlier name "Movies Now+")	HD
		20	Mirror Now (Earlier name "Magicbricks Now")	SD
		21	ET NOW	SD
		22	Times Now	SD
		23	Romedy Now HD	HD
		24	Movies Now HD	HD
		25	MNX HD (Earlier name "Movies Now 2 HD")	HD
		26	MNX (Earlier name "Movies Now 2")	SD
9	Business Broadcast News Private Limited	27	Times Now HD	HD
		28	BTVi (Earlier name "Bloomberg TV India")	SD
10	Celebrities Management Pvt Ltd	29	Travel XP HD (Earlier name "Travel XP")	HD
		30	Travel XP Tamil	SD

Annexure 5.1(Contd.)

S.No	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
11	Discovery Communications India	31	Animal Planet	SD
		32	Discovery Channel	SD
		33	Discovery Channel – Tamil	SD
		34	Discovery Kids Channel	SD
		35	Discovery Science	SD
		36	Discovery Turbo	SD
		37	ID Investigation Discovery	SD
		38	Discovery HD World (earlier name "Discovery HD")	HD
		39	Animal Planet HD World (earlier name "Discovery Home and Health")	HD
		40	TLC HD world (earlier name "Military Channel")	HD
		41	TLC	SD
42	Dsport	SD		
12	Disney Broadcasting (India) Limited	43	Disney Junior (Earlier name "UTV Comedy")	SD
		44	UTV Movies	SD
		45	Disney XD (Earlier name "UTV World Movies")	SD
		46	Bindass Play (Earlier name "UTV Stars")	SD
		47	The Disney Channel	SD
13	E-24 Glamour Limited	48	E 24	SD
14	Eenadu Televisoin Private Limited	49	ETV Telugu	SD
		50	ETV Andhra Pradesh (earlier name "ETV-2")	SD
		51	ETV - Telangana (earlier name "ETV-3")	SD
		52	ETV Cinema	SD
		53	ETV Life	SD
		54	ETV Plus	SD
		55	ETV Abhiruchi	SD
56	ETV HD	HD		
15	EPIC Television Networks Pvt Limited	57	EPIC TV (HD Distribution)	HD
16	Genx Entertainment Limited	58	UTV Bindass	SD
		59	UTV Action	SD
17	Greycells18 Media Ltd	60	Topper TV (#)	SD
18	IBN Lokmat News Private Ltd	61	IBN Lokmat	SD

Annexure 5.1(Contd.)

S.No	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
19	Living Entertainment Enterprises Private Ltd	62	Living Foodz HD	HD
20	Mavis Satcom Limited	63	J Movies	SD
		64	Jaya Max	SD
		65	Jaya Plus	SD
		66	Jaya TV HD	HD
21	MSM World Wide Factual Media Pvt Ltd	67	SONY BBC EARTH	SD
		68	SONY BBC EARTH HD	HD
22	NDTV Life style Limited	69	NDTV Good Times	SD
23	Neo Sports Broadcast Pvt Limited	70	NEO Prime (Earlier name "Neo Cricket")	SD
		71	Neo Sports	SD
24	New Delhi Television Limited	72	NDTV 24*7	SD
		73	Granada TV (HD)	HD
		74	Trace Sports HD	HD
		75	NDTV Profit	SD
25	NGC Network (India) Pvt Limited	76	Fox Life	SD
		77	National Geographic Channel (NGC)	SD
		78	Fox Life HD	HD
		79	Nat Geo Wild	SD
		80	National Geographic HD	HD
		81	Nat Geo Music HD	HD
		82	Nat Geo Wild HD	HD
		83	Nat Geo People HD	HD
84	Baby TV HD	HD		
26	NOIDA Software Technology Park Ltd	85	NHK World Premium (HD Distribution)	HD
27	Odisha Television Limited	86	Prarthana	SD
		87	Tarang	SD
		88	Tarang Music	SD
		89	Alankar	SD
28	Panorama Television Private Limited	90	ETV Bihar Jharkhand	SD
		91	ETV MP Chattisgarh	SD
		92	ETV Rajasthan	SD
		93	ETV Uttar Pradesh Uttarachal	SD
		94	ETV Urdu	SD
		95	ETV News Kannada	SD
		96	ETV News Bangla	SD
		97	News 18 Punjab/Haryana/Himanchal Pradesh (Earlier name "ETV Haryana/Himanchal Pradesh")	SD

Annexure 5.1(Contd.)

S.No	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		98	ETV News Gujarati	SD
		99	ETV News Odia	SD
29	Paul Entertainments Pvt Limited	100	9X Tashan (Earlier name "Purvaiya")	SD
30	Raj Television Network Limited	101	Raj Musix Kannada	SD
		102	Raj Digital Plus	SD
		103	Raj Musix	SD
		104	Raj News	SD
		105	Raj TV	SD
		106	Vissa TV	SD
31	Sahara India Commercial Corporation Ltd	107	Sahara Filmy	SD
		108	Sahara One	SD
32	Sarthak Entertainment Pvt Limited	109	Sarthak TV	SD
33	Silverstar Communications Limited	110	Mega 24	SD
		111	Mega Musiq	SD
		112	Mega TV	SD
34	Sony Pictures Networks India Private Limited	113	Sony YAY!(Earlier name "Animax")	SD
		114	AXN	SD
		115	SET MAX	SD
		116	MIX	SD
		117	SAB	SD
		118	SONY ENTERTAINMENT CHANNEL (SET)	SD
		119	PIX	SD
		120	SIX	SD
		121	MAX 2 (Earlier name "MAX HD")	SD
		122	PAL (Earlier Name "SAB HD")	SD
		123	SET HD	HD
		124	SIX HD	HD
		125	PIX HD	HD
		126	MAX HD	HD
		127	SONY ESPN HD	HD
		128	Le PLEX HD	HD
129	Ten 2 HD	HD		
130	Ten 3 HD	HD		
131	SAB HD	HD		
132	SONY ROX HD	HD		

Annexure 5.1(Contd.)

S.No	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
35	Star India Private Limited	133	Channel (V)	SD
		134	Star Sports 1 Tamil (Earlier name "Star Sports 4")	SD
		135	Star Sports Select 2 (earlier "FX")	SD
		136	Star Bharat (earlier "Life Ok")	SD
		137	Movies OK (earlier "Gold Action")	SD
		138	Star Sports 1 Hindi (Earlier name "Star Sports 3")	SD
		139	Star Gold	SD
		140	Star Jalsha	SD
		141	Star Movies	SD
		142	Star Gold Select (Earlier name "Star Movies Action")	SD
		143	Star Plus	SD
		144	Star Pravah	SD
		145	Star Sports 1	SD
		146	Star Sports 2	SD
		147	Star World	SD
		148	Jalsha Movies (Earlier name "Star Bengali")	SD
		149	Star Sports HD 2	HD
		150	Star Sports HD 1	HD
		151	Star Bharat HD (earlier name "Life Ok HD")	HD
		152	Star Gold HD	HD
		153	Star Movies HD	HD
		154	Star Plus HD	HD
		155	Star World Prmiere HD	HD
		156	Star Sports 1 HD Hindi (Earlier name "Star Sports HD 3")	HD
		157	Star Sports Select 1 (Earlier name "Star Sports HD 4")	SD
		158	Star Movies Select HD	HD
		159	Star World HD	HD
		160	Star Sports First (Earlier Name "FX HD")	SD
		161	MAA Gold	SD
		162	MAA Movies	SD
		163	MAA Music	SD
		164	MAA TV	SD
		165	Star Pravah HD	HD

Annexure 5.1(Contd.)

S.No	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		166	Star Jalsha HD	HD
		167	Jalsha Movies HD	HD
		168	Star Sports Select HD 1	HD
		169	Star Sports Select HD 2	HD
		170	MAA HD	HD
		171	Star Gold Select HD	HD
		172	MAA Movies HD	HD
36	SUN TV Network Limited	173	Adithya TV	SD
		174	Chintu TV	SD
		175	Chutti TV	SD
		176	Gemini Comedy	SD
		177	Gemini Life	SD
		178	Gemini Movies	SD
		179	Gemini Music	SD
		180	Gemini News	SD
		181	Gemini TV	SD
		182	KTV	SD
		183	Kiran TV	SD
		184	Kushi TV	SD
		185	SUN Life	SD
		186	Sun Music	SD
		187	Sun News	SD
		188	Surya Music (Earlier name "Sun News English")	SD
		189	SUN TV	SD
		190	SUN TV RI	SD
		191	Surya TV	SD
		192	Udaya Comedy	SD
		193	Udaya Movies	SD
		194	Udaya Music	SD
		195	Udaya News	SD
		196	Udaya TV	SD
		197	Kochu TV	SD
		198	Sun TV HD	HD
		199	KTV HD	HD
		200	Sun Music HD	HD
		201	Gemini TV HD	HD
		202	Sun Action (#)	SD
		203	Gemini Action (#)	SD
		204	Surya Action (#)	SD
		205	Suriyan TV (#)	SD

Annexure 5.1(Contd.)

S.No	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
37	Taj Television India Private Limited	206	Ten 2 (earlier name 'Ten Action')	SD
		207	Ten 1 (earlier name 'Ten Sports')	SD
		208	Ten 3	SD
		209	Ten Golf HD	HD
		210	Ten 1 HD (earlier name 'Ten HD')	HD
38	Turmeric Vision Pvt Ltd	211	Food Food TV	SD
39	Turner International India Pvt Ltd	212	Cartoon Network	SD
		213	CNN International	SD
		214	HBO	SD
		215	POGO	SD
		216	Toonami (Earlier "Boomerang")	SD
		217	WB	SD
		218	HBO HD (Earlier "HBO Hits HD")	HD
40	TV 18 Broadcast Limited	219	CNN News 18 (earlier "CNN-IBN")	SD
		220	CNBC Bajaar	SD
		221	CNBC TV 18 Prime HD	HD
		222	CNBC Awaaz	SD
		223	CNBC TV 18	SD
41	TV Today Network Limited	224	Aaj Tak	SD
		225	Delhi Aaj Tak	SD
		226	India Today (Earlier name "Headlines Today")	SD
		227	Aaj Tak Tez	SD
42	United Home Entertainment Pvt Ltd	228	Hungama TV	SD
43	Viacom 18 Media Private Limited	229	Colors	SD
		230	Comedy Central (HD Distribution)	HD
		231	MTV	SD
		232	NICK	SD
		233	NICK JR (Earlier name "Nick Jr / Teen Nick")	SD
		234	SONIC	SD
		235	VH 1 (HD Distribution)	HD
		236	Colors Infinity HD	HD
		237	Colors Infinity	SD
		238	Colors HD	HD
		239	NICKS HD+	HD
		240	MTV Indies (HD Distribution)	HD
		241	Rishtey Cineplex	SD
242	MTV Beats(Earlier name "X Zone")	SD		

Annexure 5.1(Contd.)

S.No	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		243	Colors Kannada HD	HD
		244	Colors Marathi HD	HD
		245	Colors Bangla HD	HD
		246	Colors Super	SD
		247	Colors Bangla (Earlier name "ETV Bangla")	SD
		248	Colors Gujarati (Earlier name "ETV Gujarati")	SD
		249	Colors Kannada (Earlier name "ETV Kannada")	SD
		250	Colors Marathi (Earlier name "ETV Marathi")	SD
		251	Colors Oriya (Earlier name "ETV Oriya")	SD
		252	MTV Beats HD	HD
		253	NXT	SD
		254	Cineplex HD	HD
		255	VH 1	SD
		256	Comedy Central	SD
44	Vijay Television Pvt Limited	257	Vijay TV (except Tamil Nadu)	SD
		258	Vijay Super	SD
		259	Vijay HD	HD
45	Zee Akaash News Private Limited	260	24 Ghanta	SD
46	Zee Entertainment Enterprises Limited	261	Zee ETC Bollywood (Earlier name "Zee Bollywood")	SD
		262	Action Cinema	SD
		263	Zee Bangla Cinema	SD
		264	Zee Café HD	HD
		265	Zee Café	SD
		266	Zee Cinema	SD
		267	Classic Cinema	SD
		268	Zee Studio	SD
		269	Zee Talkies	SD
		270	Zee TV	SD
		271	Zing	SD
		272	& Picture	SD
		273	Zee Bangla	SD
		274	Zee Marathi	SD
		275	Living Foodz (earlier name "Zee Khana Khazana")	SD

Annexure 5.1(Contd.)

S.No	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		276	Zee TV HD	HD
		277	Zee Cinema HD	HD
		278	Zee Studio HD	HD
		279	& TV	SD
		280	& TV HD	HD
		281	Zee Kannada	SD
		282	Zee Telugu	SD
		283	& Pictures HD	HD
		284	Zee Cinemalu	SD
		285	Zee Yuva	SD
		286	Zee Marathi HD	HD
		287	Living Zen	SD
		288	& Prive HD	HD
		289	Zee Bangla HD	HD
		290	Zee Talkies HD	HD
47	Zee Media Corporation Limited	291	Zee 24 Taas	SD
		292	Zee Kalinga (Earlier name "Zee 24 Ghantalu)	SD
		293	Zee Business	SD
		294	Zee Punjab Haryana Himachal (Earlier name "Zee Punjabi")	SD
		295	Zee Madhya Pradesh Chattisgarh	SD
		296	Zee Salaam	SD
		297	Zee 24 Kalak	SD
		298	WION	SD
		299	Zee Rajasthan News (Earliner name "Zee Marudhara" and "Zee Rajasthan Plus")	SD
48	Zoom Entertainment Network Limited	300	Movies Now	SD

Note :

(A) Indicative a-la-carte rates of the pay channels, as reported to TRAI as offered by the broadcaster to the DPOs, are for information of the stakeholders.

(B) # Advertisement free channels

(C) The rate of pay channels has been reported by the broadcasters in accordance with the Telecommunication (Broadcasting and Cable) Services (Fourth) (Addressable Systems) Tariff Order, 2010 dated 21.07.2010 as amended from time to time.

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,
Surajpur, Greater NOIDA,
Distt, Gautam Budh Nagar - 201 306
Ph: 0120-6141000
Fax : 0120-6141250
Website : www.vedeocond2h.com

Annexure 5.3: List of 86 existing cities with operational FM Radio Channels in India

S.No.	Name of City	Category	Number of operational channels
1	Agra	B	4
2	Agartala	D	1
3	Ahmedabad	A	7
4	Ahmednagar	C	3
5	Aizwal	D	2
6	Ajmer	C	4
7	Akola	C	3
8	Aligarh	C	2
9	Allahabad	B	4
10	Amritsar	B	4
11	Asansol	B	2
12	Aurangabad	C	4
13	Bareilly	C	4
14	Bengaluru	A	8
15	Bhopal	B	4
16	Bhubaneswar	C	4
17	Bikaner	C	4
18	Bilaspur	C	3
19	Chandigarh	C	4
20	Chennai	A+	8
21	Cochin	B	4
22	Coimbatore	B	4
23	Delhi	A+	9
24	Dhule	C	2
25	Gangtok	D	2
26	Gorakhpur	C	4
27	Gulbarga	C	1
28	Guwahati	C	4
29	Gwalior	C	4
30	Hissar	D	4
31	Hyderabad	A	7

Annexure- 5.3 (Contd.)

S.No.	Name of City	Category	Number of operational channels
32	Itanagar	D	1
33	Indore	B	4
34	Jabalpur	B	4
35	Jaipur	A	6
36	Jalandhar	C	4
37	Jalgaon	C	4
38	Jammu	C	2
39	Jamshedpur	B	4
40	Jhansi	C	2
41	Jodhpur	C	4
42	Kannur	C	4
43	Kanpur	A	6
44	Karnal	D	3
45	Kolhapur	C	4
46	Kolkata	A+	8
47	Kota	C	4
48	Kozhikode	C	3
49	Lucknow	A	6
50	Madurai	B	4
51	Mangalore	C	3
52	Mumbai	A+	9
53	Muzaffarpur	C	2
54	Mysore	C	2
55	Nagpur	A	6
56	Nanded	C	2
57	Nasik	C	4
58	Panaji	D	3
59	Patiala	C	4
60	Patna	B	4
61	Puducherry	C	3
62	Pune	A	6
63	Raipur	C	4
64	Rajahmundry	C	1
65	Rajkot	B	4

Annexure- 5.3 (Contd.)

S.No.	Name of City	Category	Number of operational channels
66	Ranchi	C	4
67	Rourkela	C	2
68	Sangli	C	3
69	Shillong	D	3
70	Shimla	D	3
71	Sholapur	C	4
72	Siliguri	C	3
73	Srinagar	C	1
74	Surat	A	6
75	Thiruvananthapuram	C	4
76	Thrissur	C	4
77	Tiruchy	C	2
78	Tirunelveli	C	2
79	Tirupati	C	2
80	Tuticorin	C	2
81	Udaipur	C	4
82	Vadodra	B	4
83	Varanasi	B	4
84	Vijayawada	B	2
85	Vishakapatnam	B	4
86	Warrangal	C	1
Total			322

Source: As reported by Private FM Radio Service Providers to TRAI

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