

REPORT

ON

AUDIT & ASSESSMENT OF QUALITY OF SERVICE

OF

BASIC SERVICE (WIRELIN),
BASIC SERVICE (WIRELESS) &
CELLULAR MOBILE TELEPHONE SERVICE

AND

BROADBAND SERVICE

FOR

WEST ZONE – MADHYA PRADESH-CHHATISGARH CIRCLE

Report Period: July 2009 – September 2009

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PREFACE

TRAI' s mission is to create and nurture conditions for growth of telecommunications in the country in a manner and at a pace, which will enable India to play a leading role in emerging global information society. One of the main objectives of Telecom Regulatory Authority of India (TRAI) is to provide a fair and transparent policy environment, which promotes a level playing field and facilitates for fair competition.

In pursuance of above objective TRAI has issued from time to time a large number of regulations, orders and directives to deal with issues coming before it and provided the required direction to the evolution of Indian telecom industry in a multi operator, multi service open competitive market. In continuation to that efforts, TRAI has selected through bidding process Audit Agency to audit and assess the Quality of Service (QoS) rendered by the service providers namely Basic Wireline, Cellular Mobile Telephone and Broadband Services.

The Audit would assess the Quality of Service of telecom operators by auditing the service level records maintained by the operators, conducting drive tests as well as live measurements and comparing them with quality of service benchmarks stipulated by TRAI.

The Audit for various circles within the Zones have been distributed across various quarterly periods. TCIL Auditors carried out Audits in Madhya Pradesh and Chhatisgarh Circles, West Zone in the period from July 2009 – September 2009. This report details the performance of various service providers in Madhya Pradesh and Chhatisgarh Circles against Quality of Services benchmarks for various parameters laid down by TRAI in respective regulations, 2009 for Basic Wireline, Cellular Mobile Telephone and Broadband Services.

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CHAPTER – 1

BACKGROUND

1.1 Introduction

TRAI's mission is to create and nurture conditions for growth of telecommunications in the country in a manner and at a pace, which will enable India to play a leading role in emerging global information society. One of the main objectives of Telecom Regulatory Authority of India (TRAI) is to provide a fair and transparent policy environment, which promotes a level playing field and facilitates fair competition.

In pursuance of above objective TRAI has issued from time to time a large number of regulations, orders and directives to deal with issues coming before it and provided the required direction to the evolution of Indian telecom market from a Government owned monopoly to a multi operator multi service open competitive market.

The directions, orders and regulations issued cover a wide range of subjects including tariff, interconnection and quality of service as well as governance of the Authority.

The purpose of laying down Quality of Service Parameters is to:

- i) Create conditions for consumer satisfaction by making known the quality of service, which the service provider is required to provide, and the user has a right to expect.
- ii) Measure the Quality of Service provided by the Service Providers from time to time and to compare them with the norms so as to assess the level of performance.
- iii) Generally protect the interests of consumers of telecommunication services.

TRAI has been carrying out regular reviews of the status of quality of service of the networks of all operators. In continuation to these efforts TRAI has selected through bidding process Audit Agency to audit and assess the Quality of Service rendered by the service providers' namely basic wireline, Cellular Mobile Telephone Services and broadband service.

The objective of assessment for the Quality of Services (QoS) has been carried out by TCIL for all the basic wireline, Cellular Mobile Telephone Services and broadband service Providers during the period starting from July 2009 to September 2009 in Madhya Pradesh & Chhatisgarh Circles. The report provides the critical findings of the Audit by providing: -

- ◆ "Service provider performance report" based on quarterly Performance Monthly Report (PMR), 3-days live assessment and one month data audited for the basic wireline, Cellular Mobile Telephone Services and broadband service, which highlights the performance of various operators against the benchmark specified by TRAI, during the month in which the Audit was carried out by TCIL.
- ◆ "Parameter wise critical findings" for the basic wireline, Cellular Mobile Telephone Services and broadband service. This indicates parameter wise observations and findings from different activities carried out during the Audit process by TCIL.

1.2 Scope of Work

The audit and assessment of Quality of Service is conducted for BSNL, private basic service providers, unified access service providers, cellular mobile service providers and ISPs (Internet Service Provider) in Madhya Pradesh & Chhatisgarh Service areas in the Western Zone for basic wireline, Cellular Mobile Telephone Services and broadband service.

The detailed scope of work is given below:-

- i) Verification of the data submitted by the service providers to TRAI as part of QoS monitoring reports i.e. quarterly Performance Monitoring Reports (PMRs) and monthly Point of Interconnection (POI) Congestion Reports with reference to the records maintained by the service provider.
- ii) Verification of the performance of service providers against the Quality of Service benchmarks laid down by TRAI using live measurement for 3 days during the month in which the audit and assessment is carried out.
- iii) Verification of the performance of service providers against the Quality of Service benchmarks laid down by TRAI using the data for the entire month during which the live measurement is carried out.
- iv) Drive tests of the mobile networks service providers both operator assistant and independent drive test.
- v) Billing and Call center's data verification.
- vi) Live testing of the efficiency of the call center / customer care help line.

1.3 Methodology

1.3.1 Basic Wireline Service:

The Network parameter of the QoS TRAI regulations is observed / verified for the 3 days for nearly 5% of the telephone exchanges covering 10% of the SDCA in a Service area. The network parameter for the entire month is also collected from the operator as per the requirement. There are operators who have unified NMS/NOC from where the entire data can be seen. At the same time on several occasions the data had to be collected from the respective exchange as the centralized monitoring is not available. The data related to Billing and Customer care is checked for the previous month and verified with the customer by calling the customer by the auditing officers in presence of operator. The process of registration and handling of the complaints was also studied for the various operators. Call centre number was called for measuring the efficiency of the call centre in two sessions, 50 calls in each session at Network/Call center busy hours.

1.3.2 Basic Service (Wireless) and Cellular Mobile Telephone Services:

All the NSS (Network Sub System) and BSS (Base-station Sub System) data for the relevant details were collected either directly from the centralized NOC or through a remote access to the NOC. The Radio parameters of the QoS TRAI Regulations were audited/observed/verified from the data collected from OMC-R (Operation and Maintenance Center – Radio, as part of BSS data). The Drive test was conducted in high, low and medium dense areas inclusive of highways, commercial complex and residential areas and special attention was paid for the areas for which TRAI has received complaints. The POI and other network parameters were audited/observed/verified from the data collected from the OMC-S (Operation and Maintenance Center – Switch as part of NSS data). The data related to Billing and Customer care is checked for the previous month and verified with the customer by calling the customer by the auditing officers in

presence of operator. The process of registration and handling of the complaints was also studied for the various operators. Call centre number were called for measuring the efficiency of the call centre. The Inter operator congestion was checked by calling the operators during the time specified in the tender. TCBH (Time Consistent Busy Hour) is taken as 11:00 Hrs and 19:00 Hrs as per the maximum traffic being observed for three consecutive days.

1.3.3 Broadband Services:

5% of the POPs (Point Of Presence) in 10% of the SDCA were audited for the relevant details from the centralized NOC or through a remote access to the NOC. The network parameter was also checked from the centralized NOC. MRTG, Cactii and Sandvine software were used for monitoring link utilization. Smoke Ping and Ping Test were used for monitoring Network Latency. The data related to Billing and Customer care was checked for the previous month and verified with the sample of customers by calling them and taking their feedback. The process of registration and handling of the complaints was also studied for the various operators. Test Calls were made to the Helpline number of the Call Centre of different ISPs for measuring the efficiency of the call centre during the peak hours as per the TRAI benchmark.

CHAPTER – 2

REFERENCE DOCUMENTS / SOFTWARE / TOOLS USED

The following documents shall be followed and consulted while conducting the Audit and Assessment of Quality of Services for basic wireline, Cellular Mobile Telephone Services and broadband service:

1. TRAI Regulations documents
 - a. Regulations on Quality of Service of Basic and Cellular Mobile Telephone Services, 2009
 - b. Quality of Service of Broadband Service Regulations 2006.

2. Quarterly Performance Monitoring Report (PMR) for the quarter ending March 2009, provided by TRAI.

3. TRAI Tender document no. II (Audit)

4. Manufacturer's operating and configuration manual where ever made available.

5. The following Systems /Tools were used while conducting the Audit and Assessment of QoS of Basic (Wireless) and Cellular Mobile Services.
 - a. Drive Test Tools.
 - b. OMC-R & OMC-S
 - c. MSC

6. The following Software /Tools were used while conducting the Audit and Assessment of QoS of Broadband Services.
 - MRTG, Cacti and Sandvine for link utilisation.
 - Smoke Ping and Ping Test for Latency calculations.
 - Internet Explorer and Speed test tools for testing download speed.
 - FTP and PING Test for packet loss.

CHAPTER – 3

OPERATORS AUDITED

3.1 BASIC WIRELINE SERVICE

Sl.	Service Provider	Zone	Circle/ Service Area
1	Bharat Sanchar Nigam Ltd. (BSNL)	West	Madhya Pradesh & Chhatisgarh
2	Airtel Ltd	West	Madhya Pradesh & Chhatisgarh
3	Reliance Communications Ltd.	West	Madhya Pradesh

Nearly 5 % of the exchanges were audited as per the scope of works. Tata Teleservices (TTSL) is providing PRI services only in Madhya Pradesh & Chhatisgarh Circle.

3.2 CELLULAR MOBILE TELEPHONE SERVICES

Sl.	Name of service Provider	Zone	Circle/ Service Area
1	Idea Cellular	West	Madhya Pradesh & Chhatisgarh
2	Bharat Sanchar Nigam Ltd. (BSNL)	West	Madhya Pradesh
3	Bharat Sanchar Nigam Ltd. (BSNL)	West	Chhatisgarh
4	Airtel Ltd	West	Madhya Pradesh & Chhatisgarh
5	Reliance Communications Ltd	West	Madhya Pradesh & Chhatisgarh
6	Reliance Telecom	West	Madhya Pradesh & Chhatisgarh
7	TATA Teleservices (TTSL)	West	Madhya Pradesh & Chhatisgarh
8	Vodafone	West	Madhya Pradesh & Chhatisgarh

All the MSC and BSS systems were considered for audit and assessment.

3.3 BROADBAND SERVICES

Sl.	Name of service Provider	Zone	Circle/ Service Area
1	Bharat Sanchar Nigam Ltd. (BSNL)	West	Madhya Pradesh & Chhatisgarh
2	Airtel Ltd.	West	Madhya Pradesh & Chhatisgarh
3	Tata Communications (VSNL)	West	Madhya Pradesh & Chhatisgarh
4	Sify Limited	West	Madhya Pradesh & Chhatisgarh
5	Reliance Communications Ltd.	West	Madhya Pradesh & Chhatisgarh

5% of the POPs of ISP spread over in 10% SDCAs in specified service area are covered. You-Telecom is not yet providing the services in Madhya Pradesh & Chhatisgarh Circle.

CHAPTER – 4

SERVICES / SYSTEMS AUDITED

The following Services are audited as per the documents under reference in chapter – 2.

1. Basic Wireline Service
2. Basic Service (Wireless) and Cellular Mobile Telephone Services
3. Broadband Service
4. RF Coverage

The following Systems are audited as per the documents under reference in chapter – 2.

1. PSTN Exchanges
2. Mobile Switching Centre (NSS)
3. Base Station (BSS)
4. Broadband PoPs
5. Billing Applications
6. Customer Care applications

Facilities that are audited as per the documents under reference in chapter – 2

1. Billing documents.
2. Customer Care records.

The following field verifications were conducted as per the documents under reference in chapter – 2.

1. RF network coverage including KPIs (Key Parameter Index)
2. Inter Operator Congestion (POI)
3. Billing Complaints
4. Network Complaints
5. Customer Care efficiency

The live calling was made to assess the quality of services for Inter Operator Congestion, Billing Complaints, Network Complaints and Customer Care efficiency.

CHAPTER – 5**PMR DATA VERIFICATION REPORT
PERIOD: JANUARY 2009 – MARCH 2009**

Verification of quarterly Performance Monitoring Report (PMR) submitted by operator to TRAI with Quality of Services (QoS) records maintained by Operator.

5.1 Basic Service (Wireline) (PMR Period : January 2009 – March 2009)

S.N.	Parameters	Benchmarks	AIRTEL		BSNL(MP)		BSNL(CG)		RELIANCE COMM.	
			PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL
1	Provision of a telephone after registration of demand									
	100 % cases within 7 days (subject to technical feasibility)	100%	100%	100%	100%	100%	100%	100%	100%	100%
2	Fault incidences									
	(No. of faults/100 subscribers /month)	<3	6.3%	6.3%	3.8%	3.8%	6.0%	6.0%	1.31%	1.31%
3	Fault repair by next working day									
	By next working day	> 90%	96%	96%	95.52%	95.52%	93.72%	93.72%	97.33%	97.33%
4	Mean Time To Repair (MTTR)	< 8Hrs	8.0	8.0	5.69	5.69	8.2	8.2	3.02	3.02
5	Call Completion Rate within a local network									
	Should be better than 55%	> 55%	61%	61%	70%	70%	66.39%	66.39%	73.83%	73.83%
6	Metering and billing credibility									
	Disputed Bills over bills issued	<0.1%	0.0%	0.0%	0.03%	0.03%	0.01%	0.01%	0.001%	0.001%
7	Customer Care									
	(Promptness in attending to customers requests) 95% of requests									
	- Shifts (< 3 days)	95%	96%	96%	100%	100%	100%	100%	100%	100%
	- Closures (< 24 Hrs)	95%	100%	100%	100%	100%	100%	100%	99.26%	99.26%
	- Additional Facility (< 24 Hrs)	95%	97%	97%	100%	100%	100%	100%	99.03%	99.03%

S.N.	Parameters	Benchmarks	AIRTEL		BSNL(MP)		BSNL(CG)		RELIANCE COMM.	
			PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL
8	Response Time to the customer for assistance									
	(i) % age of calls answered (electronically:									
	within 20 seconds	80%	100%	100%	90%	90%	83%	83%	100%	100%
	within 40 seconds	95%	100%	100%	95%	95%	91%	91%	100%	100%
	(ii) % age of calls answered by operator(voice to voice):									
	within 60 seconds	80%	96%	96%	99%	99%	88.33%	88.33%	94%	94%
	within 90 seconds	95%	100%	100%	99.77%	99.77%	92.67%	92.67%	97%	97%
9	Time taken for refund of deposits after closure (100% within 60 days)	100%	100%	100%	100%	100%	100%	100%	100%	100%

■ Indicates deviation from benchmark of TRAI.

■ Discrepancy found

NA – Not Applicable

Observation:

The PMR data was verified with the data provided by the operators. The data was found to be as per the detail provided in the table above.

Airtel:

Airtel is meeting most of the benchmarks except for fault incidences.

BSNL(MP)

BSNL(MP) is meeting most of the benchmarks except for fault incidences.

BSNL(CG)

BSNL(CG) is meeting the benchmarks except for fault incidences, MTTR, and the response time to customer for assistance(voice & Electronically) .


Reliance


Reliance is meeting all the benchmarks . Reliance has not submitted the data for the parameters at Sl. No. 5 “Call Completion Rate within a local network (CCR)” in PMR to TRAI. However Reliance Comm has given the ASR data for verification in place of CCR.

5.2 Cellular Mobile Telephone Services (PMR Period : January 2009 – March 2009)

S.N.	Parameters	Bench marks	GSM OPERATORS										CDMA OPERATORS			
			Airtel		Idea		BSNL (MP)		Vodafone		Reliance Telecom		TTSL		Reliance Comm.	
			PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL
1	Network Performance															
1.1	Accumulated down time of Community Isolation	< 24 Hrs	18.67	18.67	22.57	22.57	3	3	6	6	23.01	23.01	0	0	0.68	0.68
1.2	Call set-up Success Rate (within licensees own network) (%)	> 95%	97.01%	97.01%	98.2%	98.2%	97%	97%	98.72%	98.73%	100%	100%	99.25%	99.25%	98.86%	98.86%
1.3	Service Access Delay (Sec)	9 – 20 Sec	18.8	18.8	7.44	7.44	10	10	9	9	7.31	7.31	5.7	5.7	12.57	12.57
1.4	Blocked Call Rate															
	(i) SDCCH Congestion (%)	< 1%	0.40%	0.40%	0.84%	0.84%	0.58%	0.58%	0.13%	0.13%	0.23%	0.23%	0%	0%	0%	0%
	(ii) TCH Congestion (%)	< 2%	0.45%	0.45%	1.43%	1.43%	1.84%	1.84%	0.41%	0.42%	0.78%	0.78%	0%	0%	0.63%	0.63%
	(iii) Cell exceeding 80% TCH utilization (Nos)															
1.5	Call Drop Rate (%)	< 3%	1.23%	1.23%	1.54%	1.63%	1.73%	1.73%	1.81%	1.80%	1.37%	1.37%	0.89%	0.89%	1.13%	1.13%
1.6	Percentage of connections with good voice quality (%)	> 95%	97.53%	97.53%	95.43%	96.29%	98%	98%	96.2%	96.18%	96.08%	96.08%	98.34%	98.34%	98.48%	98.48%
1.8	POI Congestion (%)	< 0.5%	NP	NP	0%	0%	0%	0%	0%	0%	0%	0%	0.10%	0.10%	0%	0%
2	Customer Help Lines:															
2.1	Response time to the customer for assistance															
	(i) % age of calls answered (electronically)															
	Within 20 seconds (%)	80%	100%	100%	100%	100%	100%	100%	98%	98%	100%	100%	100%	100%	99.06%	99.06%
	within 40 seconds (%)	95%	100%	100%	100%	100%	100%	100%	98%	98%	100%	100%	100%	100%	99.06%	99.06%
	(ii) % age of calls answered by operator (voice to voice):															
	Within 60 seconds (%)	80%	95.7%	95.7%	85%	85%	82%	82%	95%	95%	90.33%	90.33%	97%	97%	90.71%	90.71%
	Within 90 seconds (%)	95%	97.61%	97.61%	95%	95%	96%	96%	96.33%	96.33%	100%	100%	99%	99%	92.46%	92.46%

S.N.	Parameters	Bench marks	GSM OPERATORS										CDMA OPERATORS			
			Airtel		Idea		BSNL (MP)		Vodafone		Reliance Telecom		TTSL		Reliance Comm	
			PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL
3	Billing Complaints															
3.1	Billing complaints per 100 bills issued (%)	<0.1%	0%	0%	0.02%	0.02%	0%	0%	0.02%	0.02%	0.01%	0.01%	0.03%	0.03%	0.09%	0.09%
3.2	% of billing complaints resolved within 4 weeks (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
3.3	Period of all refunds / payments due to customers from the date of resolution of complaints as in (ii) above (weeks)	< 4 Weeks	<4 Weeks	<4 Weeks	<4Weeks	<4Weeks	<3 Weeks	<3 Weeks	<15 Days	<15 Days	<24 Hrs	<24 Hrs	<4 Weeks	<4 Weeks	<4 Weeks	<4 Weeks

 Indicates deviation from benchmark of TRAI.

 Discrepancy found

NA – Not Applicable

NP – Data Not Provided

Observation:

The above data was verified with the data provided by the operators. The data were found to be as per the detail provided above.

Airtel

Airtel is meeting all the benchmarks. However, Airtel have not provided POI congestion report on quarterly basis.

Idea

Idea is meeting all the benchmarks.

BSNL

BSNL is meeting all the benchmarks.

Vodafone

Vodafone is meeting all the benchmarks.

Reliance Telecom

Reliance Telecom is meeting all the benchmarks.

TTSL

TTSL is meeting all the benchmarks.

Reliance Communications (RCom.)

Reliance Communication is meeting all the benchmarks except %age of calls answered by operator (Voice to Voice) within 90 seconds. The bench mark is of 95% whereas Reliance Communication shows a value of 92.46%.

5.3 Broadband Service (PMR Period : January 2009 – March 2009)

S.N.	Parameters	Benchmark	BSNL(MP)		BSNL(CG)		Reliance Comm*		SIFY*		Airtel		VSNL	
			PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL
1	Service Provisioning/ Activation Time	100% in =<15 working days												
1.1	No. of connections registered		10712	10712	11667	11667	2249	2249	22183	22183	15353	15353	1274	1274
1.2	%age of connections provided within 15 days of registration of demand	100%	100%	100%	100%	100%	99%	99%	100%	100%	100%	100%	99%	99%
1.3	%age of connections provided after 15 days of registration of demand		0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	1%	1%
1.4	No. of customers to whom credit is given for delayed connections		0	0	1	1	No delayed connection	No delayed connection	0	0	0	0	0	0
1.5	Total no. of connections provided during the period		10782	10782	3505	3505	110359	110359	21394	21394	14821	14821	1236	1236
1.6	Total no. of working connections at the period		90062	90062	29833	29833	110359	110359	20007	20007	100480	100480	19364	19364
2	Faults Repair / Restoration Time													
2.1	Total no. of faults registered		8475	8475	5091	5091	8197	8197	50608	50608	8961	8961	39520	39520
2.2	%age of faults repaired by next working day	>90%	95.50%	95.50%	94%	94%	100%	100%	92%	92%	95%	95%	96%	96%
2.3	%age of faults repaired within 3 working days	=>99%	100%	100%	99.80%	99.80%	100%	100%	99%	99%	99%	99%	99%	99%
2.4	No. of customers to whom rent rebate is given in minimum monthly charges or equivalent usage allowance for delay in fault repair		0	0	0	0	56	56	114	114	89	89	46321	46321
	a. Rent Rebate of 7 days		0	0	15	15	35	35	98	98	80	80	46081	46081
	b. Rent Rebate of 15 days		0	0	9	9	19	19	16	16	7	7	226	226
	c. Rent Rebate of One Month		0	0	7	7	2	2	0	0	2	2	14	14

S.N.	Parameters	Benchmark	BSNL(MP)		BSNL(CG)		Reliance Comm*		SIFY*		Airtel		VSNL	
			PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL
3	Billing Performance													
3.1	Total no. of bills issued		254495	254495	80852	80852	255030	255030	0	Sify is using prepaid module, hence no bills issued	786098	786098	33401	33401
3.2	No. of bills disputed		611	611	61	61	600	600	0		3	3	281	281
3.3	%age of bills disputed	<2%	0.20%	0.20%	0.10%	0.10%	0.23%	0.23%	0		0%	0%	0.84%	0.84%
3.4	%age of complaints resolved within 4 weeks	100% within 4 weeks	100%	100%	100%	100%	100%	100%	0		100%	100%	100%	100%
3.5	%age of cases to whom refund of deposits is made within 60 days of closures	100% within 60 days	100%	100%	100%	100%	100%	100%	0		100%	100%	100%	100%
4	Response Time to the Customer for assistance													
4.1	Total no. of calls received by operators (Voice to voice)		36544	36544	12150	12150	843738	843738	78802	78802	120591	120591	882059	882059
4.2	%age of calls answered by operator (Voice to voice) within 60 sec	>60%	88.70%	88.70%	82.30%	82.30%	83%	83%	98%	98%	96%	96%	76.92%	98.26%
4.3	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	96.80%	96.80%	90.70%	93.70%	91%	91%	99%	99%	100%	100%	83.55%	99.13%
5	Bandwidth utilisation/throughout													
5.1	No. of intra network links (POP to ISP Gateway nodes)		BRAS -23, T1-24, T2-624, DSLAM 5945 Multiplay BNG 105, RPR6 16, OCLAN 2399, DSLAM 30220	BRAS -23, T1-24, T2-624, DSLAM 5945 Multiplay BNG 105, RPR6 16, OCLAN 2399, DSLAM 30220	BRAS -23, T1-24, T2-624, DSLAM 5945 Multiplay BNG 105, RPR6 16, OCLAN 2399, DSLAM 30220	BRAS -23, T1-24, T2-624, DSLAM 5945 Multiplay BNG 105, RPR6 16, OCLAN 2399, DSLAM 30220	129	129	432	432	11	11	16	16
5.2	No. of intra network links having Bandwidth utilisation >90% during peak hours (TCBH)		0	0	0	0	0	0	0	0	0	0	0	0

S.N.	Parameters	Benchmark	BSNL(MP)		BSNL(CG)		Reliance Comm*		SIFY*		Airtel		VSNL	
			PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL
5.3	No. of Upstream links for International connectivity (ISP Gateway nodes to IGSP/NIXI node/NAP)		IGW-126,STMs &NIXI 3GE	IGW-126,STMs &NIXI 3GE	IGW-126,STMs &NIXI 3GE	IGW-126,STMs &NIXI 3GE	18	18	27	27	11	11	11 stm 1, 24stm4, 6stm16, 4*5gig B-Bona	11 stm 1, 24stm4, 6stm16, 4*5gig B-Bona
5.4	No. of Upstream links for International connectivity having bandwidth utilisation >90% during peak hours (TCBH)		2	2	2	2	0	0	0	0	0	0	0	0
5.5	Total International bandwidth available from ISP Node to IGSP/NIXI/NAP in Mbps		IGW-19595.52 &NIXI 3000	IGW-19595.52 &NIXI 3000	IGW-19595.52 &NIXI 3000	IGW-19595.52 &NIXI 3000	62898	62898	2830	2830	1860	1860	50611	50611
5.6	Total International bandwidth during peak hours (TCBH) in Mbps (Enclose MRTG)		13821.7	13821.7	13821.7	13821.7	25718	25718	2239	2239	1507	1507	26964	26964
5.7	%age International bandwidth utilisation during peak hours (TCBH) in Mbps (enclose MRTG)	<80%	78.30%	78.30%	78.30%	78.30%	41%	41%	79%	79%	81%	81%	53.35%	53.35%
5.8	Broadband Connection Speed available (download) from ISP node to user	>80%	88.40%	88.40%	92.40%	92.40%	90%	90%	95%	95%	99%	99%	>80%	>80%
6	Service Availability / Uptime (for all users) in %age	>98% w.e.f. Quarter Ending Sep. 07												
6.1	Total Operational Hours		2160	2160	2160	2160	2160	2160	2160	2160	7089006	7089006	2566824	2566824
6.2	Total downtime in hours		11.27	11.27	17.88	17.88	2.20	2.20	0	0	22332.3	22332.3	12595	12595
6.3	Service availability/uptime (for all users) in %age	>98%	99.50%	99.50%	99.20%	99.20%	99.69%	98.69%	100%	100%	100%	99.98%	99.05%	99.51%
7	Packet loss (for wired broadband access) in %age	<1%	0.10%	0.10%	0.10%	0.10%	<1%	<1%	<1%	<1%	0%	0%	0%	0%

S.N.	Parameters	Benchmark	BSNL(MP)		BSNL(CG)		Reliance Comm*		SIFY*		Airtel		VSNL	
			PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL	PMR	Verified by TCIL
8	Network latency (for wired broadband access)													
8.1	User reference point at POP/ISP Gateway node to IGSP/NIXI	<120 ms	63ms	63ms	63ms	63ms	0ms	0ms	<45ms	<45ms	76ms	76ms	<80ms	<80ms
8.2	User reference point at ISP Gateway node to IGSP/NIXI	<350 ms	273.7ms	273.7ms	273.7ms	273.7ms	285ms	285ms	<300ms	<300ms	88ms	88ms	<250ms	<250ms
8.3	User reference point at ISP Gateway node to international nearest NAP port abroad (satellite)	<800 ms	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Indicates deviation from benchmark of TRAI.

Discrepancy found

NA – Not Applicable

Observation:

The above data was verified with the data provided by the operators. The data was found to be as per the detail provided above.

BSNL(MP)

BSNL(MP) is meeting all the benchmarks. However, Bandwidth Utilisation/throughput, Service Availability/Uptime, Packet Loss and Network Latency parameters are based on all India figures.

BSNL(CG)

BSNL(CG) is meeting all the benchmarks except for percentage of connections provided within 15 days of registration of demand. However, Bandwidth Utilisation/throughput, Service Availability/Uptime, Packet Loss and Network Latency parameters are based on all India figures.

Reliance

Reliance is meeting most of the benchmark except for percentage of connections provided within 15 days of registration of demand. However, discrepancies have been found in the Service Availability/Uptime .

Reliance is submitting the PMR on all India basis, hence data is verified on All India basis not for MPCG Circle particularly.

Sify

Sify is meeting all the benchmarks. Sify claims that all its retail broadband customers are prepaid and hence there are no bills issued.

SIFY is submitting the PMR on all India basis, hence data is verified on All India basis not for MPCG Circle particularly.

Airtel

Airtel is meeting most of the benchmark except for percentage of connections provided within 15 days of registration of demand.

TATA Communications (VSNL)


VSNL is meeting all of the benchmark.

However, QoS Parameters no. 2.4, 4, 5, 7 & 8 represents all India figures and rest are representing Central region (Madhya Pradesh & Chhatisgarh) figures.

CHAPTER -6**LIVE ASSESSMENT OF QoS OF DIFFERENT SERVICES****3 DAYS DATA****6.1 LIVE ASSESSMENT : BASIC SERVICE (WIRELINE)**

Service Provider Performance Report based on 3-days live measurement data collected during the month of August & September for the audit period July 2009 – September 2009.

S.N.	Parameters	Benchmarks	AIRTEL	BSNL(MP)	BSNL(CG)	RELIANCE COMM.
1	Call Completion Rate within a local network Should be better than 55% & ASR should be better than 75%.	> 55% & >75%	60.11%	65.93%	55.83%	87.19%
2	POI Congestion	< 0.5%	0.072%	0.0%	0.01%	0.00%
3	Response Time to the customer for assistance					
3.1	Accessibility of Call Centre/Customer Care					
	within 40 seconds	> 95%	100%	100%	100%	100%
3.2	% age of calls answered by operator(voice to voice):					
	within 60 seconds	> 90%	98%	96%	98%	100%

 Indicates deviation from benchmark of TRAI.

NA – Not Applicable

NOTE:

BSNL (MP): 130 Exchanges from the SSA/SDCA of Bhopal, Indore, Ujjain, Hosangabad, Jabalpur, satna, and Gwalior were audited.

BSNL (CG): 30 Exchanges from the SSA/SDCA of Raipur, Bilaspur and Jagdalpur were audited.

For all other operators, Centralized data was provided for all the exchanges of MP & CG Circle.

6.1.1 Observation & Findings : Live Measurement – Basic Service (Wireline)

AIRTEL

Airtel is meeting the benchmarks of “better than 55%” for Call Completion Ratio within a local network during the 3-days live measurement as well as in POI congestion.

Airtel is also meeting the benchmark provided by TRAI for Response Time to Customer for Assistance for the parameters “Calls answered electronically within 40 Seconds” and “Calls answered Voice to Voice within 60 Seconds ” during the 3-days live measurement.

BSNL(MP)

For BSNL, 130 Exchanges from the SSA/SDCA of Bhopal, Indore, Ujjain, Hosangabad, Jabalpur, Satna, and Gwalior were audited. BSNL is meeting the benchmarks provided by TRAI during the 3-days live assessment for Call Completion Rate (CCR) as well as a meeting the benchmark in POI congestion.

BSNL is meeting the benchmark provided by TRAI for Response Time to Customer for Assistance for the parameters 40 Seconds for electronically and the parameters 60 Seconds for Voice to Voice during the 3-days live measurement.

BSNL(CG)

For BSNL, 30 Exchanges from the SSA/SDCA of Raipur, Bilaspur and Jagdalpur were audited. BSNL is meeting all the benchmarks provided by TRAI during the 3-days live assessment for Call Completion Rate (CCR) as well as in POI congestion data.

BSNL is meeting the benchmark provided by TRAI for Response Time to Customer for Assistance for the parameters 40 Seconds for electronically and the parameters 60 Seconds for Voice to Voice during the 3-days live measurement.

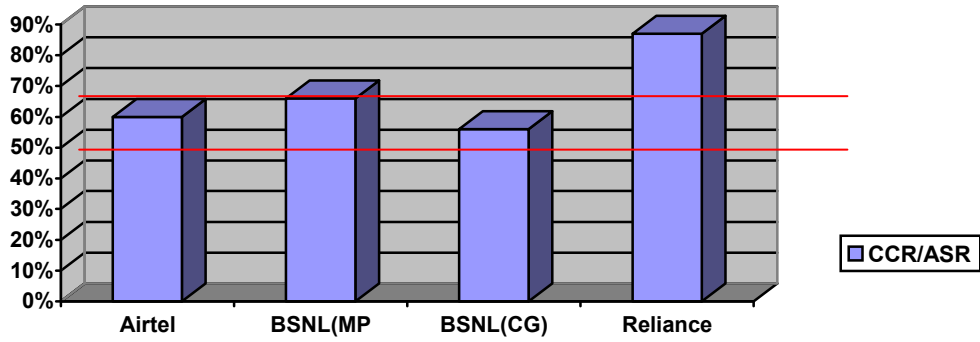
RELIANCE COMM.

Reliance is complying the benchmarks of TRAI during the 3- days live Measurement for Call Completion Rate (CCR) within a local network as well as in POI congestion parameters .

Reliance is meeting the benchmark provided by TRAI for Customer Assistance for the parameters 40 Seconds for Electronically and the parameters 60 Seconds for Voice to Voice.

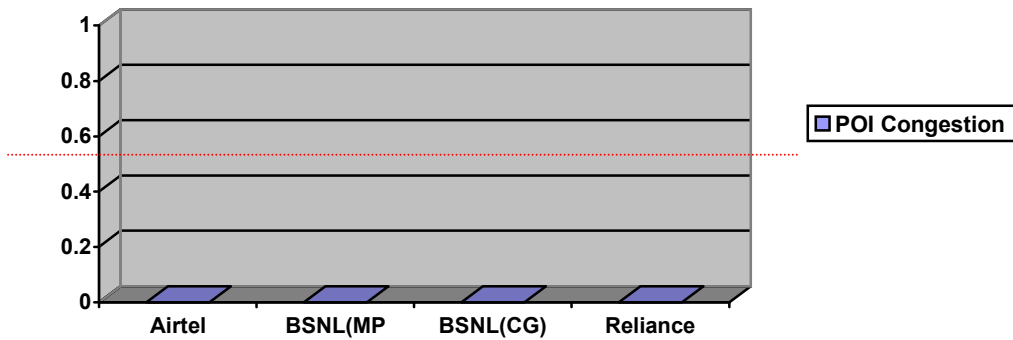
6.1.2 Data Analysis & Graphical Representations – 3 Days Live Assessment – Basic Service (Wireline)

1.0 Call Completion Rate(CCR) & Answer to Seizure(ASR) within a local network:
Should be better than 55% and 75%: All the operators meeting the benchmark.



2.0 POI Congestion: Should be less than 0.5%

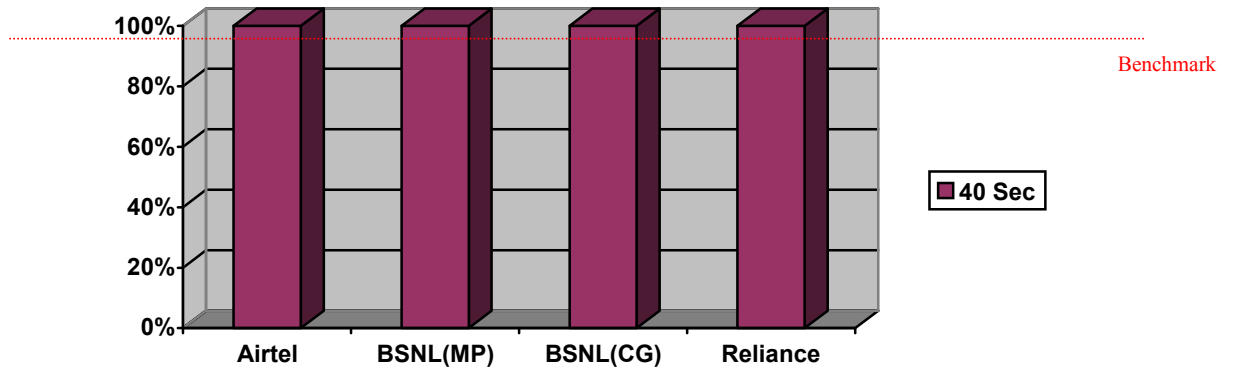
All the operators complying the benchmarks set by TRAI.



3.0 Response time to the customer for assistance:

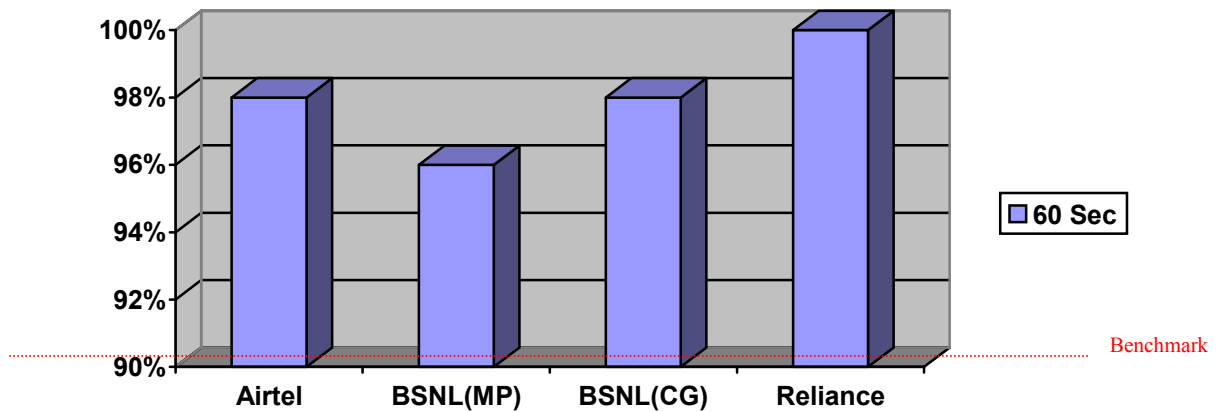
(i) Accessibility of call centre/ customer care;

- **Within 40 seconds (>95%):** All the operators meet the benchmark.



(ii) % age of calls answered by operator (Voice to Voice)

- **Within 60 seconds (>90%):** All the operator meeting the benchmark.



6.2 LIVE ASSESSMENT : CELLULAR MOBILE TELEPHONE SERVICES

Service Provider Performance Report based on 3-days live measurement data collected in between 11th August to 10th September for the audit period July 2009 – September 2009.

S/N	Name of Parameter	Bench mark	Voda fone	Airtel	Idea	BSN L (MP)	BSN L (CG)	RTL	TTS L	RCo m.	
(A)	Network Service Quality Parameter		GSM Operators						CDMA Operators		
1	Connection Establishment (Accessibility)										
	(a) Call Set-up Success rate (Within licensee's own network)	>=95%	98.46 %	97.17 %	97.88 %	95.94 %	93.36 %	98.31 %	99.11 %	99.47 %	
	(b) SDCCH/PAGING channel congestion	<=1%	0.13%	0.18%	0.62%	0.46%	2.06%	0.18%	NP	0%	
	(c)TCH congestion	<=2%	1.54%	0.47%	1.62%	1.74%	10.09 %	0.83%	0%	0.17%	
2	Connection maintenance(retainability)										
	(a) call drop rate	<=2%	1.80%	1.55%	1.88%	1.78%	3.13%	1.03%	0.72%	1.16%	
	(b) Worst affected cells having more than 3% TCH drop(call drop)rate	<=5%	19.49 %	17.00 %	12.73 %	7.98%	36.90 %	0.03%	0.87%	0.68%	
	(c) connections with good voice quality	>=95%	95.90 %	93.35 %	95.32 %	*95.95 %	*84.7 %	*90.9 %	*96.4 %	*97.7 %	
3	Point of Interconnections(POI) congestion(on individual POI)	<=0.5%	0%	0%	0%	0%	0%	0%	0%	0%	
(B)	Customer Service Quality Parameters										
4	Response time to customers for assistance										
	(a) Accessibility of call centre/customer care	>=95%	100%	100%	98%	100%	100%	100%	95%	100%	
	(b) Percentage of call answered by operators(voice to voice) within 60 seconds	>=90%	95.00 %	98.00 %	90.00 %	92.00 %	94.00 %	92.45 %	93.00 %	91.70 %	

Indicates deviation from benchmark of TRAI.

NP- Data not provided.

Note: * Data collected form Drive test as because the service provider have not provided the required data from there system. CDMA operator have reported that there system do not generate such data.

6.2.1 Observation & Findings : Live Measurement – Cellular Mobile Telephone Services

AIRTEL

Airtel is not meeting the benchmarks for ‘Worst affected cell exceeding 3% TCH drop’ for which the benchmark is set to be $\leq 5\%$ or better. As per TRAI new regulation of 2009 the above said parameter is to be measured at CBBH (Cell Bounce Busy Hour) instead of TCBH (Time Consistent Busy Hour) as used to be done before. For Airtel the value is as high as 17% and thus need to be taken into consideration ASAP.

In addition to the above ‘Percentage of connections with good voice quality’ parameter also differs in term of meeting the TRAI benchmark of $\geq 95\%$ or better. Value obtained is of 93.35% which can be categorized under medium range deviation from the benchmark. For POI congestion, 4 POIs have been found to have congestion however the excess traffic was diverted in terms of overflow so as to obtain net POI congestion zero. Average traffic on 3 days live data observation was found to be 8051 Erlang while system capacity (GoS) was found to be 18872.5 Erlang.

Else rest of the parameters are meeting the benchmarks.

IDEA

Idea with a score of 12.73% dose not meet the TRAI benchmarks of “5% \leq or better” for ‘Worst affected cell exceeding 3% TCH drop’ taken at CBBH. The value 12.73% is considerably high as compared with the benchmark and thus falls under the category of high range deviation needed to be taken into consideration ASAP. For Idea no congestion was found on individual POIs while average traffic on 3 days live data observation was found to be 57710 Erlang while system capacity (GoS) was found to be 110290 Erlang.

Rest of the parameters are meeting the benchmarks.

VODAFONE

All the parameters are as per TRAI benchmarks, except for ‘Worst affected cell exceeding 3% TCH drop’ with a value of 19.49%. For Vodafone no congestion was found on individual POIs while average traffic on 3 days live data observation was found to be 5950 Erlang while system capacity (GoS) was found to be 13221 Erlang.

BSNL (MP)

BSNL (MP) with a score of 7.98%, also is not meeting the TRAI benchmarks of “5% \leq or better” for ‘Worst affected cell exceeding 3% TCH drop’ taken at CBBH. The value 7.98% is high as compared with the bench mark and thus needed to be taken into consideration ASAP. Total usage of POI for 3 days average was found to be 15186 Erlang.

Rest of the parameters are meeting the benchmarks.

BSNL (CG)

Except for Customer Care data none of the parameters are meeting the benchmark.

BSNL (CG) with a score of 36.9% do not meet the TRAI benchmarks of “5% \leq or better” for ‘Worst affected cells exceeding 3% TCH drop’ taken at CBBH. The value 36.9% is considerably high as compared with the bench mark and thus needed to be taken into consideration ASAP. Also to be noted that Call Set-up Success Rate, SDCCH Congestion and TCH congestion for BSNL (CG)

are also not meeting the benchmark of $\geq 95\%$, $\leq 1\%$ and $\leq 2\%$ respectively for having a value of 93.36%, 2.06% and 10.09% respectively. Total usage of POI for 3 days average was found to be 5760 Erlang.

RELIANCE TELECOM (RTL)

Reliance telecom is meeting all the parameters except for “%age of connections with good voice quality” during the 3-days live measurement. With a value of 90.96% there is deviation from the benchmark. For RTL no congestion was found on individual POIs while average traffic on 3 days live data observation was found to be 8414 Erlang while system capacity (GoS) was found to be 17438.66 Erlang.

TTSL

‘SDCCH/PAGING Channel Congestion’ parameter was not provided by the operator. Rest, TTSL is meeting all the other benchmarks for respective parameters. For TTSL no congestion was found on individual POIs while average traffic on 3 days live data observation was found to be 12643.7 Erlang while system capacity (GoS) was found to be 27643.6 Erlang.

RELIANCE Communication (RCom.)

Reliance Com. is meeting all the benchmark. For RCom. no congestion was found on individual POIs while average traffic on 3 days live data observation was found to be 8301.16 Erlang while system capacity (GoS) was found to be 39235.3 Erlang.

Auditors comment:

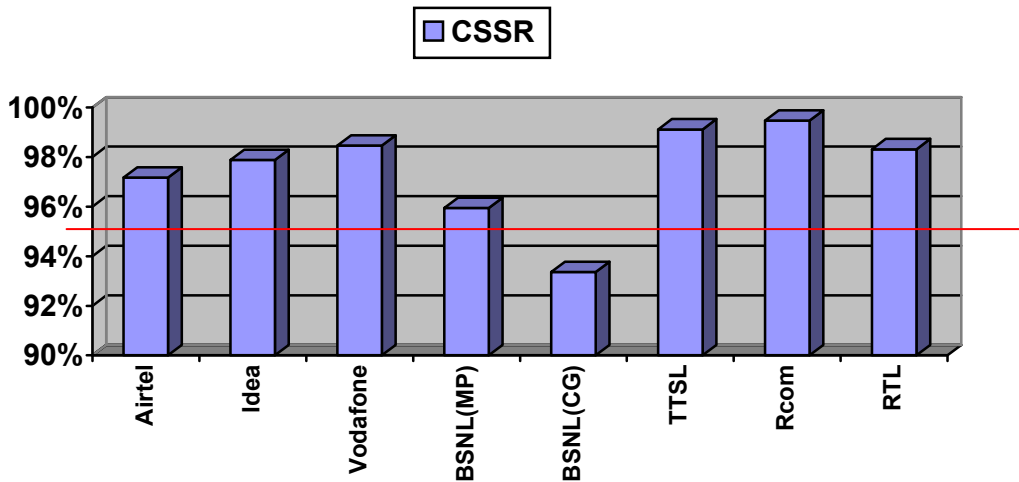
It can be seen that except for RTL (among the GSM operators) all other operators in GSM service are failing to meet the benchmark for the parameter of ‘Worst affected cells having more than 3% TCH drop rate’ with huge margins. This may have happened due to mainly in the change adopted for calculating the parameter considering CBBH instead of TCBH, which reflects more practical way of calculating TCH drop keeping in view customer satisfaction.

For CDMA operators the value remains quite low thus reflecting better performance in terms of Connection maintenance (retainability).

6.2.2 Data Analysis & Graphical Representations – 3 Days Live Assessment for Cellular Mobile Telephone Services

A) NETWORK SERVICE QUALITY PARAMETERS

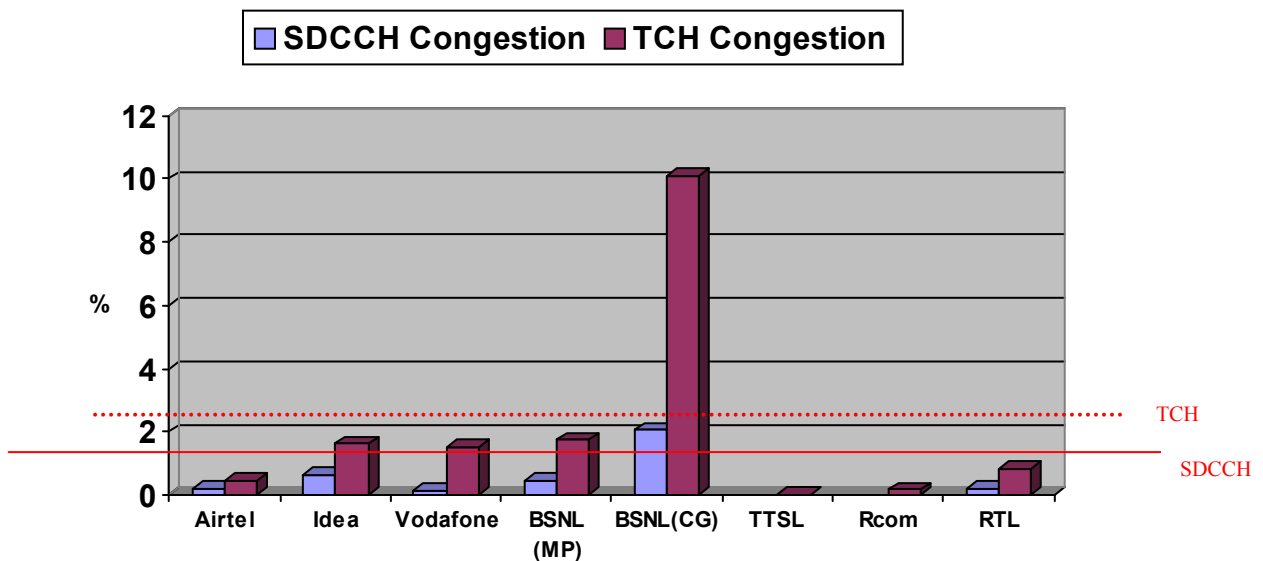
I. **Call setup success rate:** All operators are meeting the TRAI benchmarks ($\geq 95\%$) except BSNL(CG) with a value of 93.36%.



II. **Blocked call rate:**

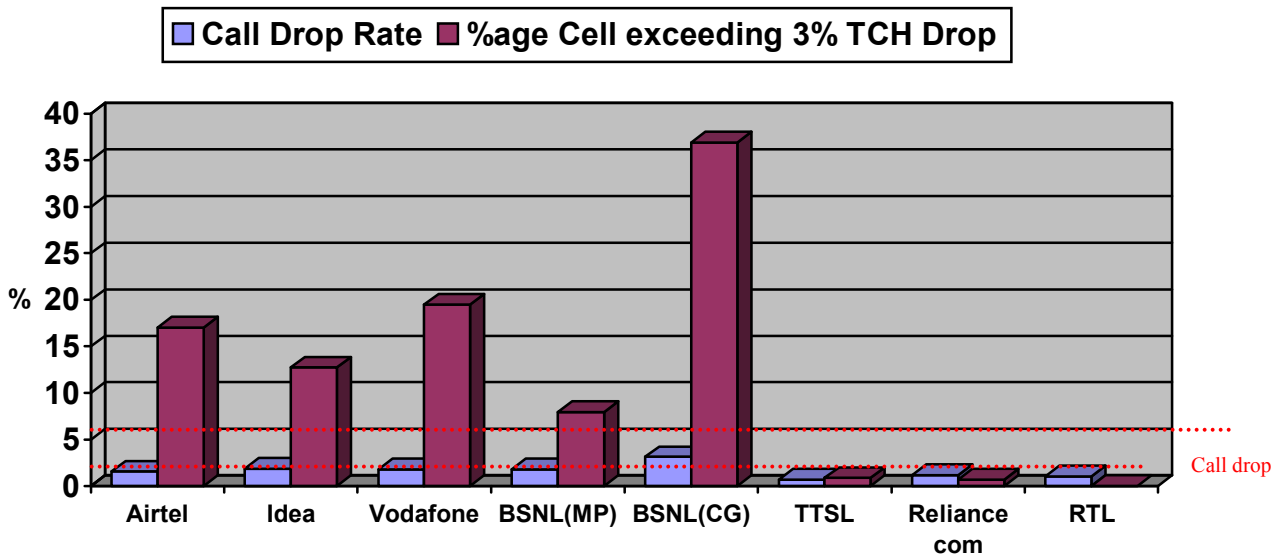
(1) **SDCCH/PAGING Channel congestion (%)**: All operators meet benchmark ($< 1\%$) except BSNL (CG) with a value of 2.06%.

(2) **TCH congestion (%)**: All operators are meeting the benchmark ($\leq 2\%$) except BSNL (CG) with a value of 10.09%. It can be seen that Vodafone, Idea and BSNL (MP) though are meeting the benchmark are at the margin.



III. 1) **Call drop rate (%)**: All operators are meeting the benchmark ($\leq 2\%$) except for BSNL (CG) with a value of 3.13%.

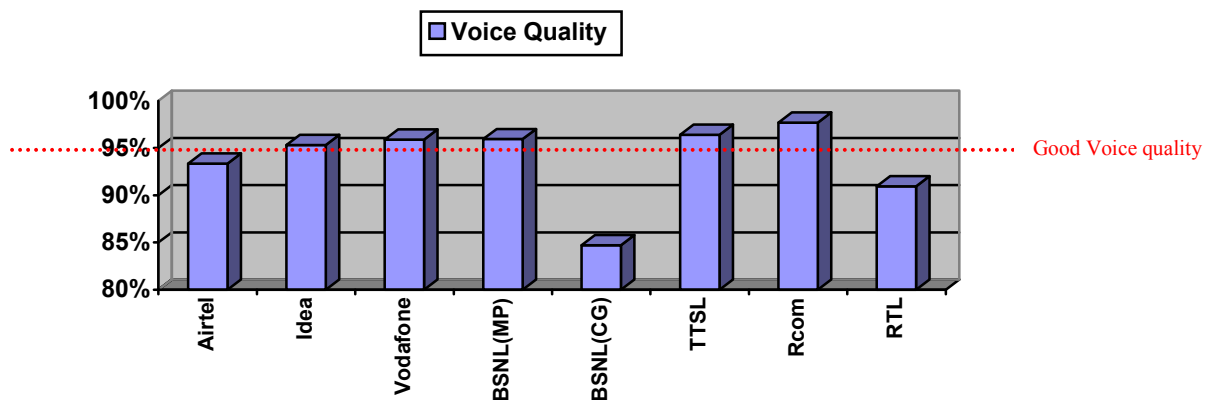
2) **Worst affected cell exceeding 3% TCH Drop** (benchmark $\leq 5\%$): Except for CDMA service and Reliance Telecom (RTL) none of the GSM operators are meeting the benchmark and deviation are of significant. The same have been observed in one month data audit report also.



IV. **Percentage of connections with good voice quality** (benchmark $\Rightarrow 95\%$):

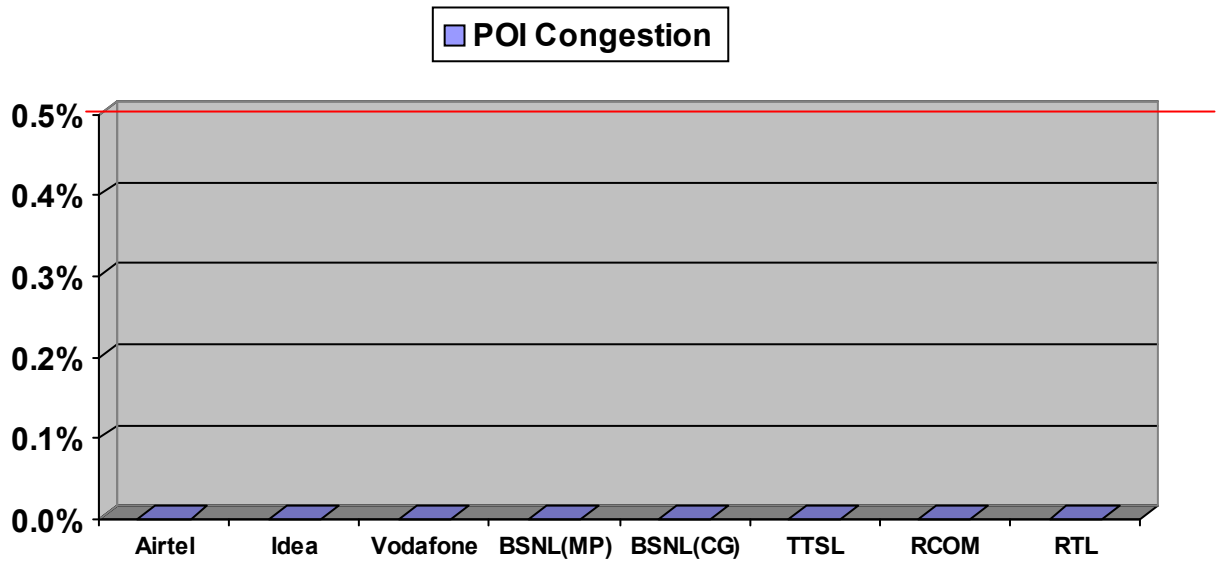
Airtel, BSNL (CG) and Reliance Telecom (RTL) are failing to meet the benchmark. Rest of the operators are meeting the benchmark.

Note: BSNL(MP), BSNL(CG) and RTL have not provided the data form the system thus 3 days drive test data are taken for consideration.



V. POI Congestion (%):

All operators are meeting the benchmark ($\leq 0.5\%$).



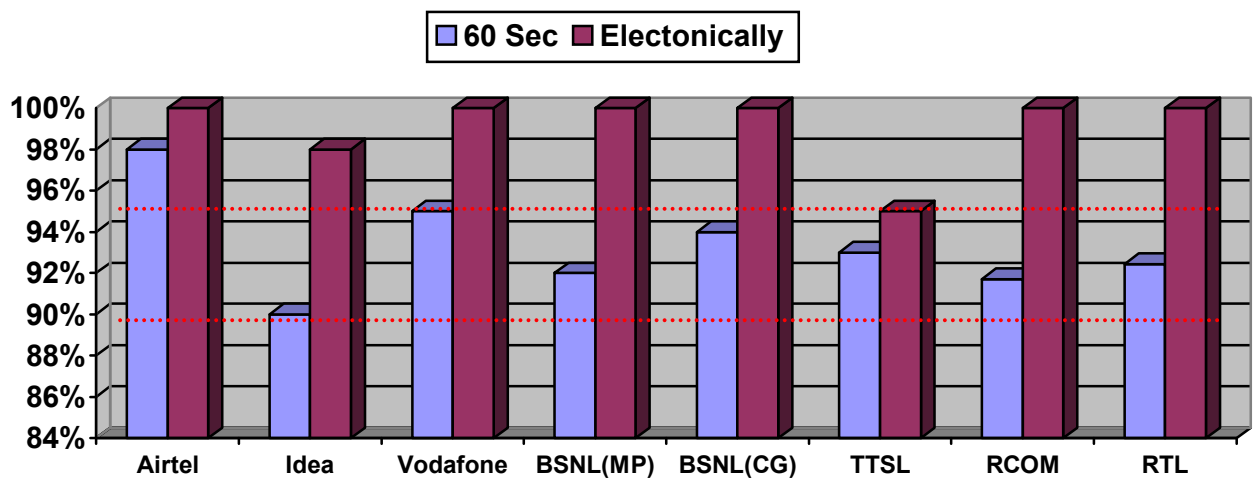
B) CUSTOMER SERVICE QUALITY PARAMETERS

Response time to the customer for assistance:

I. **Percentage of call answered (Electronically) benchmark ($\geq 95\%$):** All operators are meeting the benchmark. However TTSL is just achieving the benchmark of 95% and is thus on the margin.

II. **Percentage of call answered by operators (Voice to voice) within 60 Sec.;**


All operators are meeting the benchmark ($\geq 90\%$) however RCom. and BSNL (MP) have meet the benchmark with a narrow margin.



6.3 LIVE ASSESSMENT : BROADBAND SERVICE

Service Provider Performance Report based on 3-days Live measurement data collected during audit period(July 2009 – September 2009).

S.N.	Parameters	Benchmark	Airtel	BSNL (MP)	BSNL (CG)	Reliance Comm.	SIFY	VSNL
1	Response time to the customer for assistance							
	% age of calls answered by operator (Voice to Voice)							
	Within 60 seconds	>60%	99%	82%	98%	92%	90.40%	95%
	Within 90 seconds	>80%	100%	96%	100%	96%	98.0%	100%
2	Bandwidth Utilization/ Throughput:							
	Bandwidth Utilization	<80%						
	i) POP to ISP Gateway Node [Intra-network] Link(s)		63%	32.70%	79.12%	65%	33.25%	49.12%
	ii) ISP Gateway Node to IGSP / NIXI Node upstream Link(s) for International connectivity		77.4%	51.71%	49.03%	NA	36.37%	48.67%
	Broadband Connection Speed (download)	>80%	98%	83%	85%	98%	86%	85%
3	Packet Loss	<1%	0%	0%	0%	0%	0.10%	0%
4	Network Latency (for wired broadband access)							
4.1	User reference point at POP / ISP Gateway Node to International Gateway (IGSP/NIXI)	< 120ms	87ms	58ms	36.67ms	22ms	55ms	29.33ms
4.2	User reference point at ISP Gateway Node to International nearest NAP port abroad (Terrestrial)	< 350ms	67ms	149ms	206.67 ms	107ms	276.3ms	107.33ms
4.3	User reference point at ISP Gateway Node to International nearest NAP port abroad (Satellite)	< 800ms	NA	NA	NA	NA	NA	NA

 Indicates deviation from benchmark of TRAI.

NA – Not Applicable

The Satellite link does not exist with any of the Operator, hence the parameter “ 4.3 User reference point at ISP Gateway Node to International nearest NAP port abroad (Satellite)” is not applicable to the above Operators.

6.3.1 Observation & Findings : Live Measurement – Broadband Services

Airtel

Airtel is meeting benchmarks for all the parameters for live measurement data collected & audited for 3 days during July 2009 – September 2009.

BSNL (MP)

BSNL-MP is meeting benchmarks for all the parameters for live measurement data collected & audited for 3 days during July 2009 – September 2009.

BSNL (CG)

BSNL-CG is meeting benchmarks for all the parameters for live measurement data collected & audited for 3 days during July 2009 – September 2009.

Reliance Comm.

Reliance is meeting benchmarks for live measurement data collected & audited for 3 days during July 2009 – September 2009 for all the parameters. However, for the Bandwidth Utilization and Network Latency parameter for ISP Gateway Node to IGSP / NIXI Node upstream Link(s) for International connectivity, there is No ISP Gateway Node provided for Madhya Pradesh & Chhatisgarh Circle as Upstream link is taken care by ISP gateway at Mumbai, Delhi & Chennai, hence Not Applicable for Madhya Pradesh & Chhatisgarh Circle.

SIFY

Sify is meeting benchmarks for all the parameters for live measurement data collected & audited for 3 days during July 2009 – September 2009.

VSNL

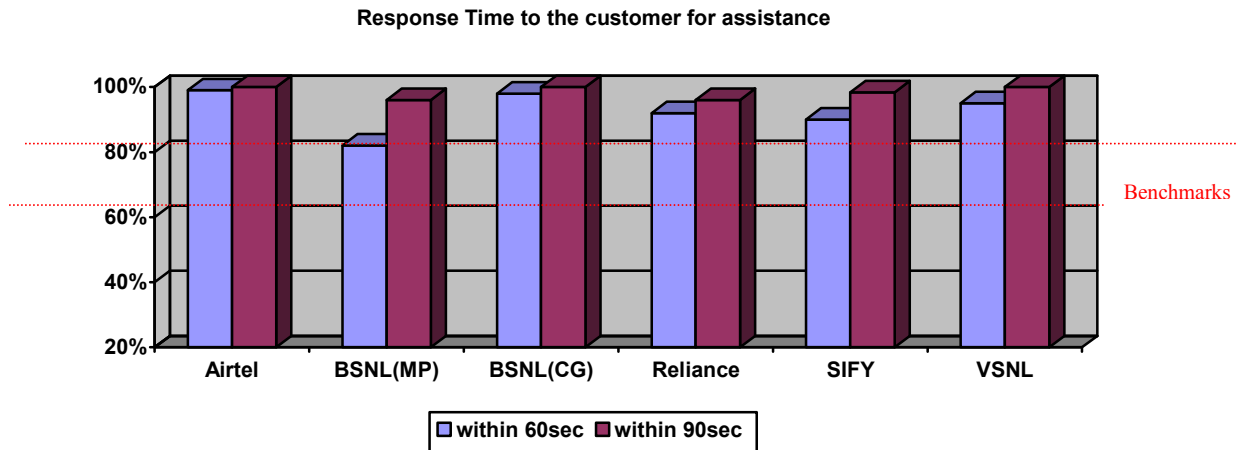
VSNL is meeting benchmarks for all the parameters for live measurement data collected & audited for 3 days July 2009 – September 2009.

6.3.2 Data Analysis & Graphical Representations – 3 Days Live Assessment – Broadband Services

1.0 Response time to the customer for assistance:

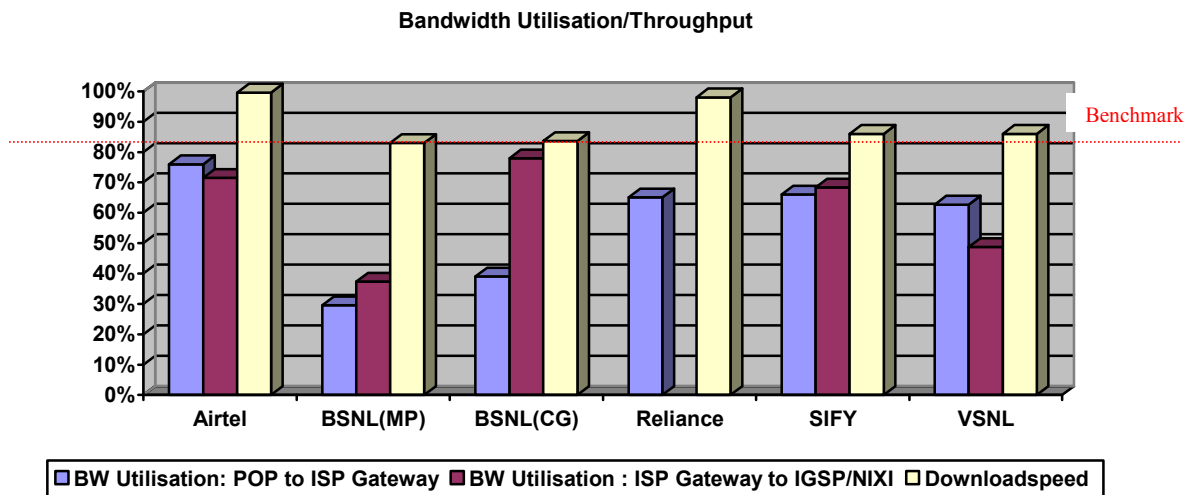
% age of calls answered by operator (Voice to Voice)

- **Within 60 seconds (>60%):** All the operators meet the benchmark.
- **Within 90 seconds (>80%):** All the operators meet the benchmark.

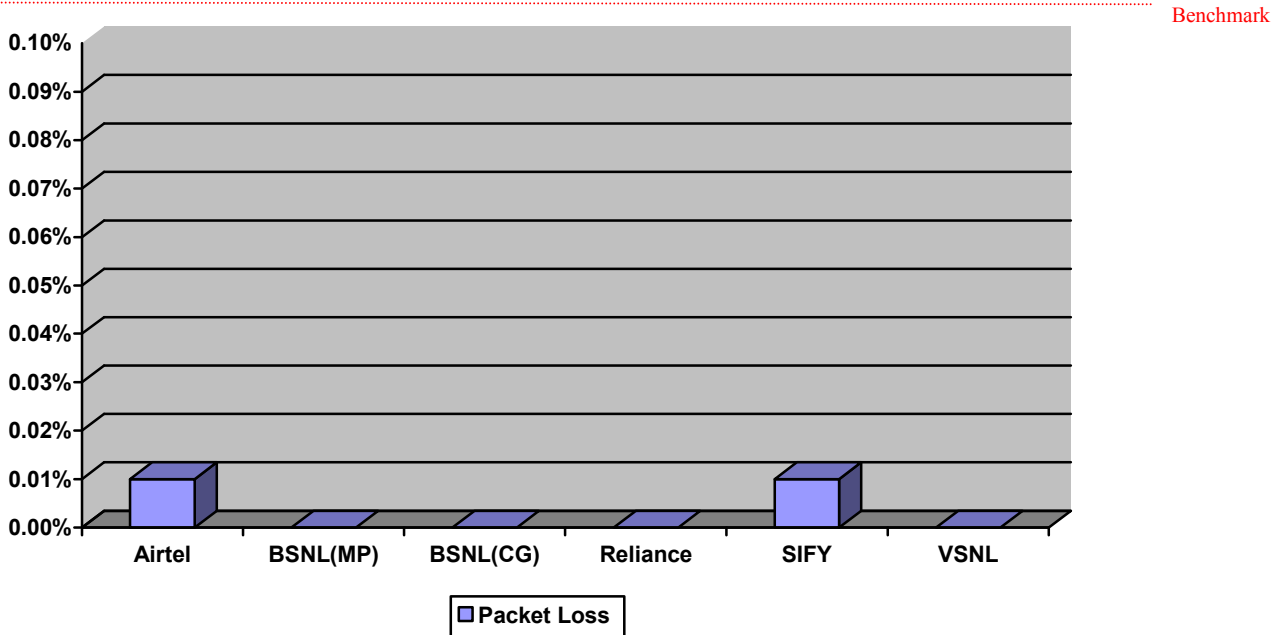


2.0 Bandwidth Utilization/ Throughput:

- POP to ISP Gateway Node [Intra-network] Link(s): (Benchmark <80%): All the operators meet the benchmark.
- ISP Gateway Node to IGSP / NIXI Node upstream Link(s) for International connectivity: (Benchmark <80%): All the operators meet the benchmark.
- Broadband Connection Speed (download) (>80%): All the operators meet the benchmark.

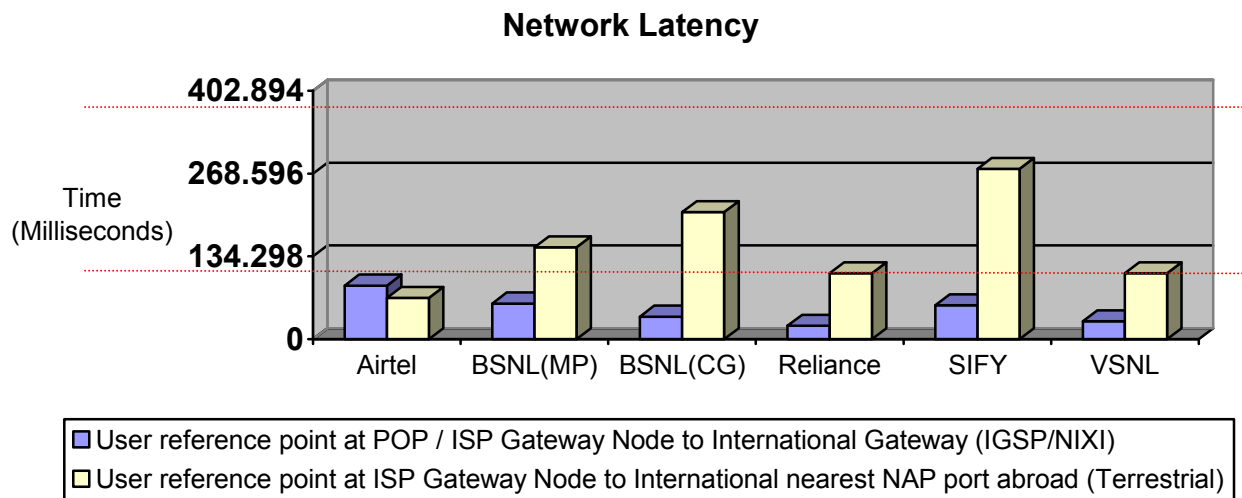


3.0 Packet Loss: (Benchmark <1%): All the operators meet the benchmark.



4.0 Network Latency:

- User reference point at POP / ISP Gateway Node to International Gateway (IGSP/NIXI): (Benchmark <120ms): All the operators meet the benchmark.
- User reference point at ISP Gateway Node to International nearest NAP port abroad (Terrestrial): (Benchmark <350ms): All the operators meet the benchmark.
- User reference point at ISP Gateway Node to International nearest NAP port abroad (Satellite): Link does not exist for the any of the operator. Hence, Not applicable.



CHAPTER – 7

PERFORMANCE REPORT OF OPERATORS

7.1 QUALITY OF SERVICE ASSESSMENT : BASIC SERVICE (WIRELINE)

7.1.1 Service Provider Performance Report based on One Month Data Verification in which audit was conducted (July 2009 – September 2009).

S.N.	Parameters	BENCH-MARKS	AIRTEL	BSNL(MP)	BSNL(CG)	RELIANCE COMM.
1	Fault incidences					
	(No. of faults/100 subscribers /month)	< 5%	9.7%	3.83%	7.25%	3.1%
2.	Fault repair by next working day(Urban Area)					
	By next working day	>90%	84.2%	96.13%	94%	100%
	Within 3 days	100%	94.7%	99.64%	97%	100%
2.1	Fault repair by next working day(Rural & hilly Area)					
	By next working day	>90%	NA	93.82%	90%	NA
	Within 5 days	100%	NA	99.86%	99%	NA
3.	Rent rebate					
3.1	Fault pending > 3 days & <7 days	Rebate for 7 days	86%	No eligible cases for Rebate	68%	100%
3.2	Fault Pending > 7 days & < 15 days	Rebate for 15 days	95%	No eligible cases for Rebate	100%	No eligible cases for Rebate
3.3	Fault pending > 15 days	Rebate for one month	96.28%	No eligible cases for Rebate	No eligible cases for Rebate	No eligible cases for Rebate
4.	Mean time to Repair(MTTR)	<= 8 Hrs	15.2 Hrs	5.75 Hrs	7.25 Hrs	0.36 Hrs
5.	Call Completion Ratio(CCR) & Answer to seizure Ratio(ASR)	> 55%(CCR) & > 75%(ASR)	60.52%	71.21%	67.37%	87%(ASR)
6.	Metering and billing credibility(post paid)					
6.1	Disputed Bills over bills issued	< 0.1%	0.03%	0.09%	0.06%	0.05%
7.	% of billing complaints resolved within 4 weeks	Within 4 weeks	100%	100%	97.46%	100%
8.	Period of all refunds/payments from the date of resolution of complaints within one weeks	Within 1 weeks	97.58%	100%	97.32%	100%
9.	POI Congestion	<= 0.5%	0.27%	0.0%	0.01%	0.5%
10.	Response Time to customer for assistance					
10.1	Accessibility of Call centre/customer Care within 40 seconds	>= 95%	100%	100%	100%	100%
10.2	% age of calls answered by operator(voice to voice) within 60 seconds	>= 90%	98%	99%	99%	92%
11	Customer care(promptness in attending to customers request					
11.1	Termination / Closures	<= 7 Days	100%	99.87%	100%	100%
12.	Time taken for refunds of deposit after closures	100% within 60 days	100%	100%	100%	100%

Indicates deviation from benchmark of TRAI.

Critical findings and Key take outs

7.1.2 Basic service (Wireline)

- ◆ The Basic service (Wireline) audit for Madhya Pradesh & Chhatisgarh Circle broadly indicates that almost all the service providers are meeting the benchmarks fixed by Telecom Regulatory Authority of India (TRAI) with exceptions in some areas as described in the report.
- ◆ The live calling results of call center for response time to the customer for assistance are found to be similar for the one month data audited and three-days live measurement for all the operators.
- ◆ In the live measurements conducted to assess Call Completion Rate (CCR), it was found that all the operators are meeting the benchmark. The results of three-days live measurement and one month data audited are found to be almost similar.
- ◆ The testing of the efficiency of level 1 services (Police, Fire brigade, Ambulance, Trunk booking, Child helpline, Women helpline, Airline booking, etc.) provided by the service providers in Madhya Pradesh & Chhatisgarh Circle has been conducted by TCIL auditors. To test the same, 300 calls were made to different numbers provided by service providers and answered call was recorded. The efficiency of level 1 services of all the operators are found to be excellent with 100% successful calls rate.
- ◆ To test the Service Providers performance on Technical (Network related complains) & Non-Technical (Provisioning, Billing, Refund etc.) complaint handling TCIL auditors have conducted a customer feedback calling for random 100 nos of customers in each segment. It was found that more than 96% customers are satisfied with services provided by the operators.
- ◆ The BSNL has a decentralised system for Book keeping, and data has been verified only for sample 5% of exchanges spread over 10% of Short Distance Charging Area (SDCA's) in Madhya Pradesh & Chhatisgarh Circle.

The parameter wise key takeouts for the Basic (Wireline) Service providers for the Madhya Pradesh & Chhatisgarh Circle are as under:-

Fault incidence :

Reliance with 3.1% and BSNL(MP) with 3.83% meet the benchmarks of <5% set by TRAI. However major deviations are observed for Airtel (9.7%) and BSNL-CG (7.25%) during one month data audit. At the time of PMR verification a major deviation was observed for all the operators except Reliance.

Fault Repair(Urban Area) :

It is found that all the operators meet the benchmarks >90% set by TRAI except Airtel(84.2%) for faults repair by next working day and only Reliance is meeting the benchmarks for fault repair by 3 working days for one month data audit ,rest other operators do not meet the benchmarks set by TRAI. At the time of PMR data verification, all the operators are meeting the benchmark. The live calling scores for the fault repair within 24 hours it was found that almost all the operators are better than 95% of customer satisfaction. While verification of records of service providers it was found that all the service providers are providing rebates as per TRAI norms.

Fault Repair(Rural & Hilly Area) :

It is found that Reliance & Airtel has no Such Faults in Rural & Hilly areas, only BSNL (MP) & BSNL (CG) is having faults in Rural & Hilly areas which meet the benchmarks of >90% set by TRAI for faults repair by next working day for one month data audit. As far as faults repair by next 5 working days are concerned, major deviations are observed in BSNL(MP) & BSNL (CG) in one month data audit.

Rent Rebate :

All the operators provide Rebate except BSNL(MP) which has no rebate cases in one month data, but others operators in which Airtel is providing rebate for 7 days(86%) ,15 days(95%) and one month(96.28%) and Reliance is providing 100% rebate in 7 days and BSNL (CG) is also providing rebate for 7 days(68%), 15 days (100%) respectively.

Mean Time to Repair(MTTR) :

All the operators are meeting the benchmark of <8hrs fixed by TRAI during one month data audit. Except Airtel(15.2Hrs) which does not meet the benchmarks but this is due to cable cut and road construction as well as heavy rain problems. It is also found while PMR data verification that all the operators are complying the benchmarks of TRAI for Mean Time to Repair (MTTR) except for BSNL(CG).

Call Completion Rate (CCR) :

All the service providers are found to be meeting TRAI benchmark of >55% for Call Completion Rate (CCR) and > 75% for Answer to Seizure Ratio during the PMR data verification, 3-days live measurement and one month data verification in which audit was conducted.

However in the case of Reliance, the Answer Seizure Ratio (ASR) is measured in place of Call Completion Rate (CCR) and the firm claims that the same is a better indicator for the kind of network owned by the Reliance.

Metering and billing credibility :

All the operators are complying the benchmark of less than 0.1% billing complaints over the total number of bills issued during the one-month data audit and PMR data verification.

% of Billing complaints Resolved Within 4 Weeks :

As per the findings for one-month data audit, all the operators were found 100% resolution except BSNL (CG)-97.46% to meet the parameter “% age of billing complaints resolved within 4 weeks”.

Period of All refunds/Payments from the date of resolution within 1 Week :

As per the findings for one-month data audit, all the operators were found 100% refunds from the date of resolution within 1 week except BSNL (CG)-97.32% and Airtel(97.58%) to meet the parameter period of refunds within 1 week.

POI Congestion :

All the operators are meeting the benchmarks in POI Congestion set by TRAI(<0.5%) in one month data Audit and 3-Days data Verifications.

Customer care (Promptness of Attending customer request) :

(i)Termination / Closure:- All the operators are meeting the TRAI benchmarks of 95% for closure requests.

Response Time to Customer for Assistance :

(i) Accessibility of Call Centre/ Customer care within 40 seconds (Electronically)

Accessibility of call centre answered electronic through IVR menu parameter, live calling, one month data audit all the operators meet the benchmarks but as far as PMR data verification for all the operators are found to be within the benchmarks of 95% fixed by TRAI for call answered in 40 seconds except BSNL (CG) – 91%, which is not meeting the benchmarks set by TRAI.

(ii) % of Call answered by operators within 60 seconds (Voice to Voice):

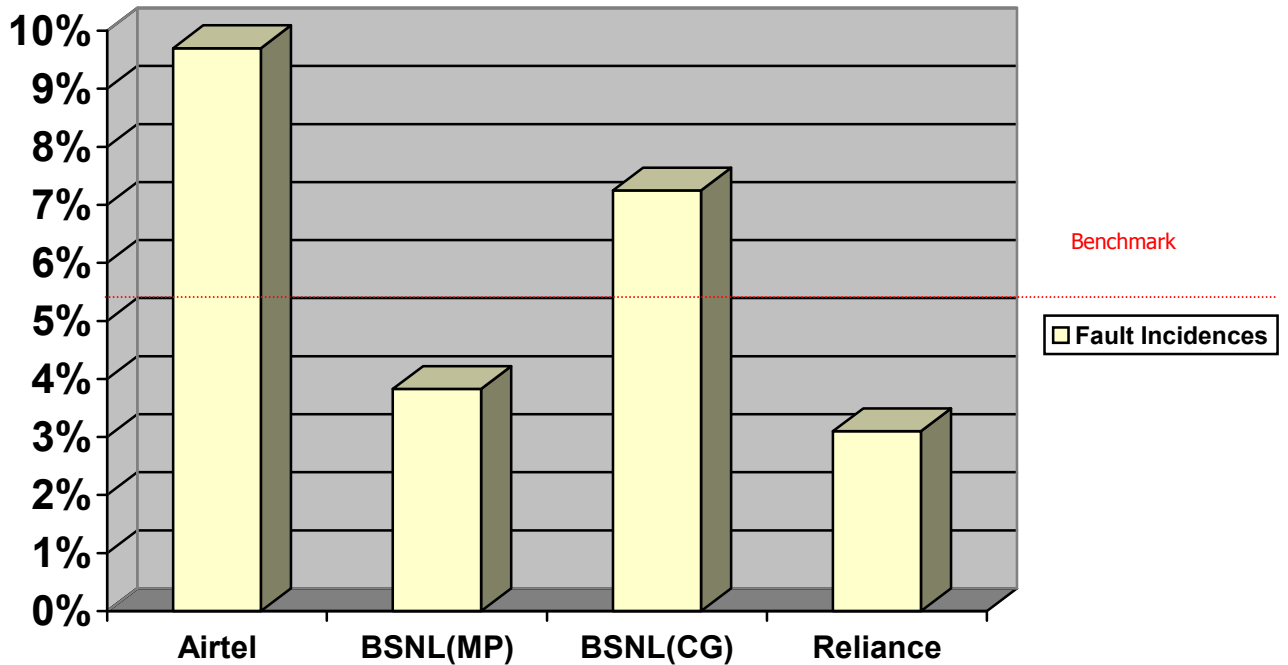
% of calls answered by operators within 60 Seconds parameters, all the operators are meeting the benchmark of 90% fixed by TRAI for live calling during 3-days live measurement, one month data audit and PMR data verification.

Time taken for refund of deposits after closure :

The audit finding on 'time taken for refund of deposit after closure' that all the operators are providing the refund to the customers within the benchmark, except for BSNL-CG (96.58%).

7.1.3 Parameter wise Data Analysis & Graphical Representations – Basic Service (Wireline)

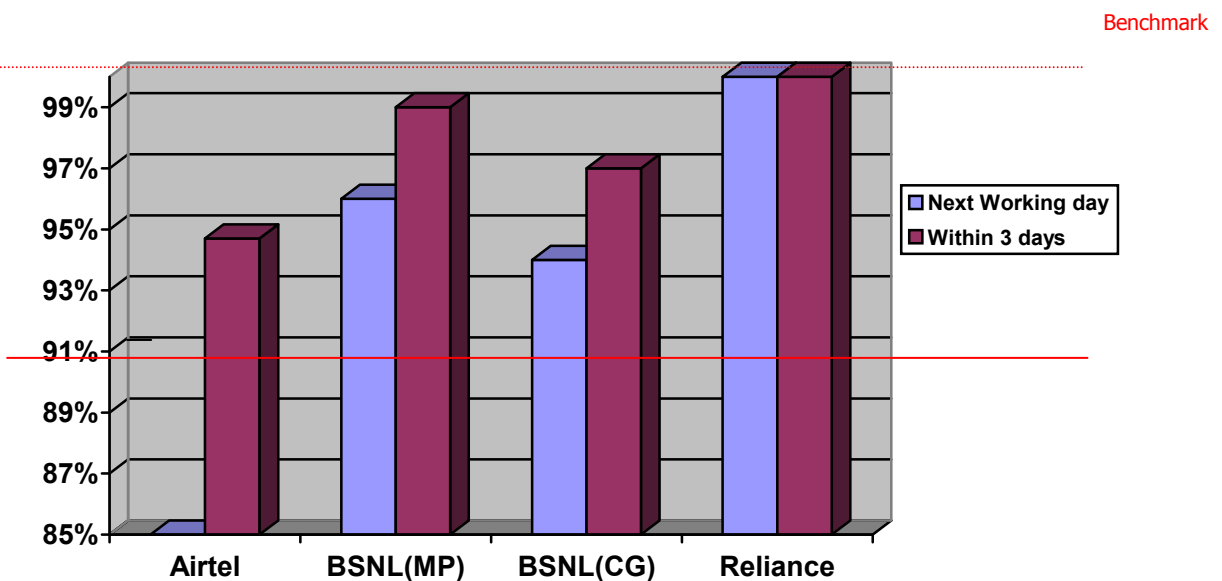
1.0 Fault incidences(No of faults/100 subscribers/month(<= 5): Airtel(9.7%) and BSNL(CG)-7.25% is not meeting TRAI benchmarks,however Reliance and BSNL (MP) meet the benchmarks set by TRAI.



2.0 Fault Repair(Urban Area):

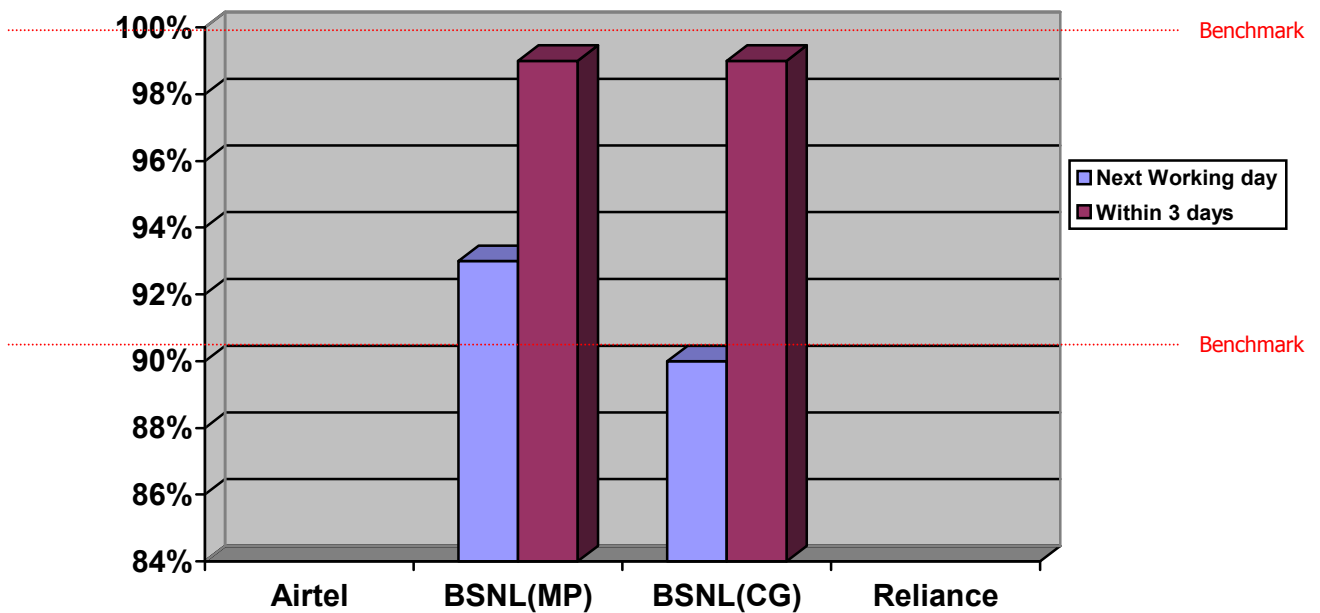
- By next working day (>90%): All the operators comply with the TRAI benchmark of 90% except Airtel.

Within 3 days (100%): Only Reliance is complying with the TRAI benchmark of 100%. Airtel (94.70%), BSNL-MP (99.64%) and BSNL-CG (97%) show deviation in benchmark.



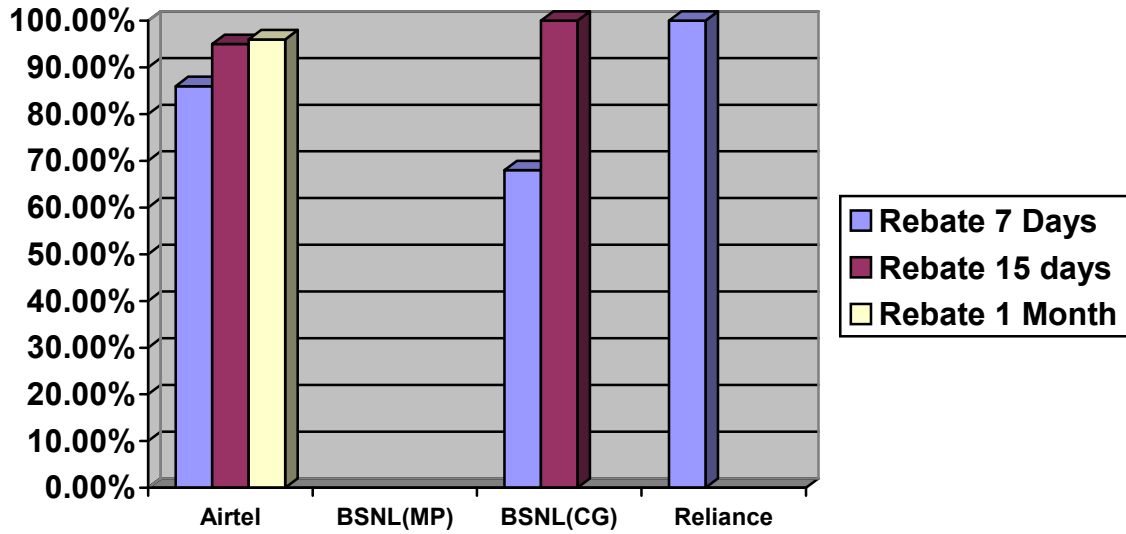
2.1 Fault Repair(Rural & Hilly Area):

- By next working day (>90%): Reliance and Airtel has no services in Rural & hilly areas but other operators comply with the TRAI benchmark of 90%.
- within 5 days (100%):Reliance and Airtel has no services in Rural & hilly areas . BSNL MP&CG are not complying with the TRAI benchmark of 100%.



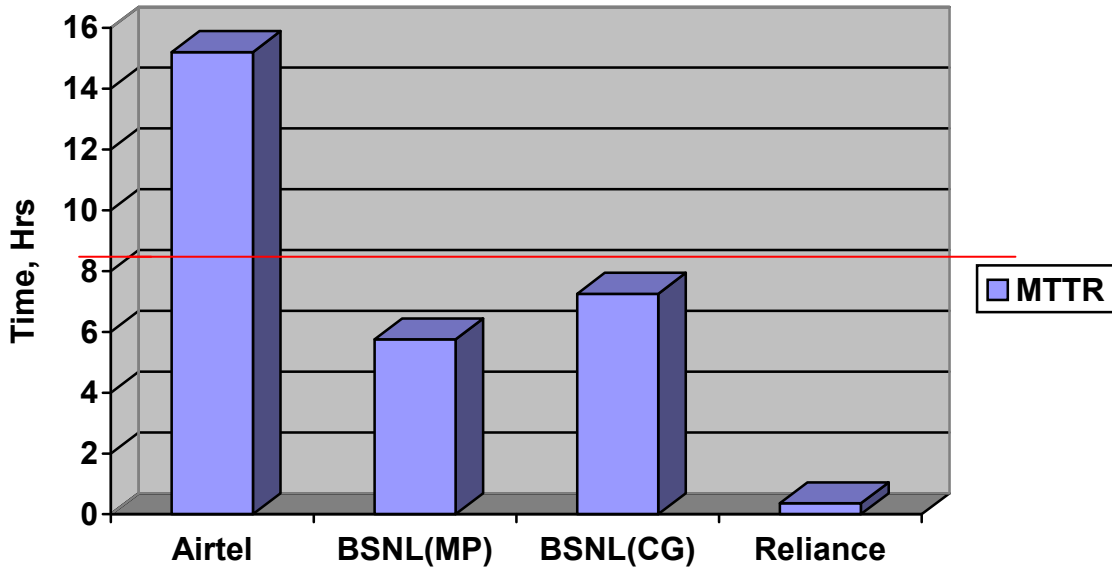
3.0 Rent Rebate:

- Faults pending for > 3 days & < 7 days(Rebate 7 days)—As far as rebate is concerned BSNL(MP) has no rebate cases ,but Airtel(86%) & BSNL(CG)-68% rebate cases ,however Reliance has given 100% rebate within 7 days respectively.
- Faults pending for > 7 days & < 15 days(Rebate 15 days)—Although BSNL(MP) & Reliance has no Rebate cases,only Airtel(95%) & BSNL (CG) is given 100% rebate in 15 Days.
- Faults pending for > 15 days(Rebate one month)--.Only Airtel(96.28%) has given rebate to the customer rest other operators has no rebate cases respectively.



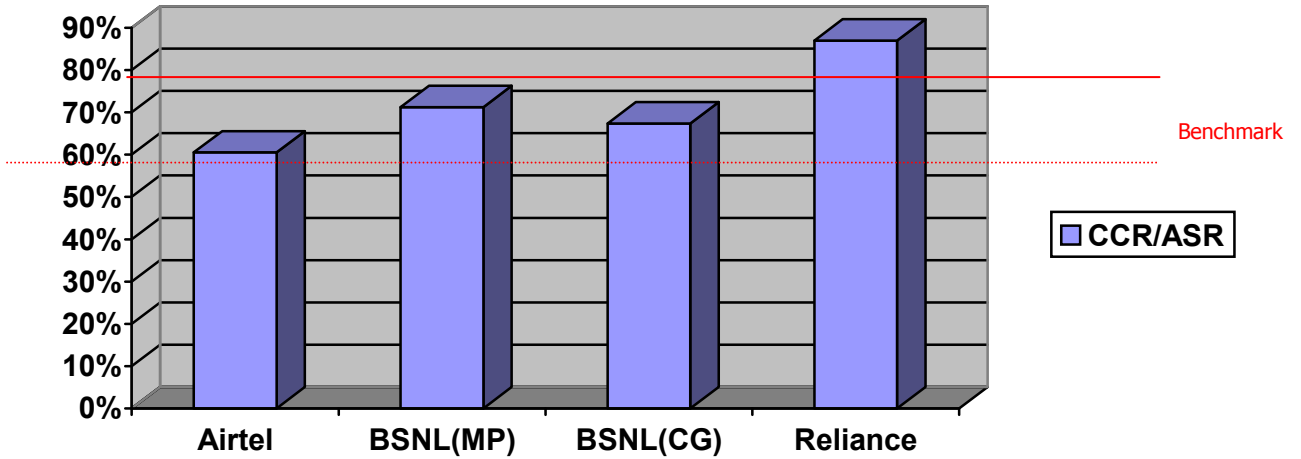
4.0 Mean Time to Repair (MTTR) (<= 8 Hrs) :

All the operators comply with the TRAI benchmarks except Airtel(15.2 hrs).



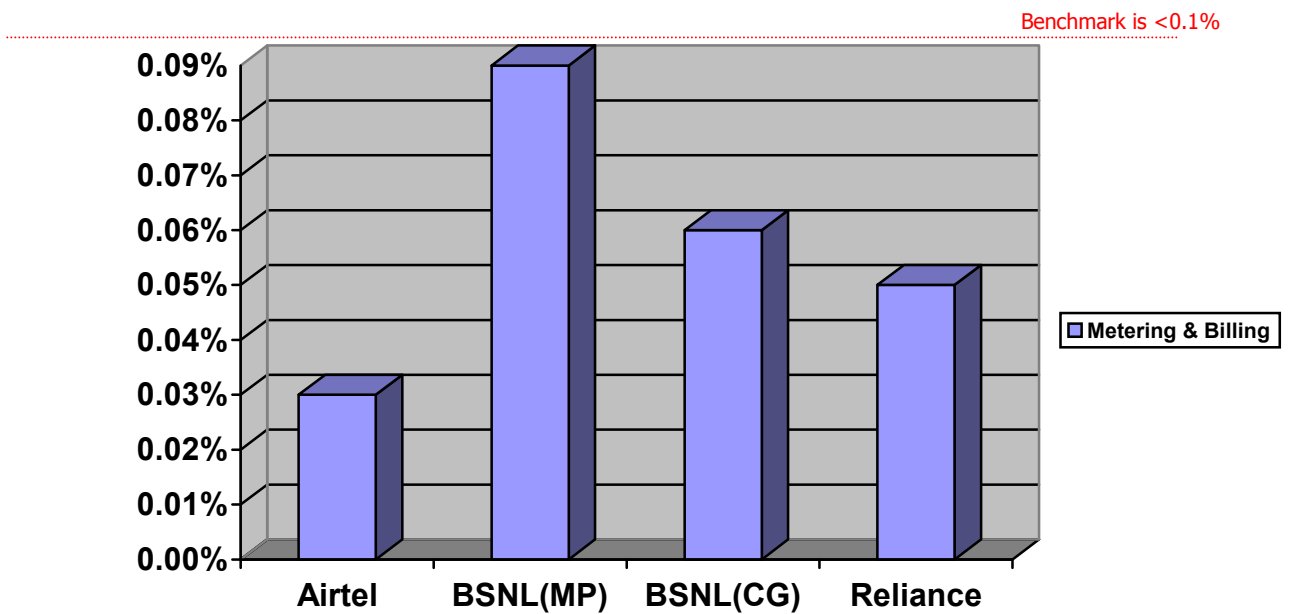
5.0 Call Completion Rate (CCR)/ Answer to Seizure Ratio(ASR) (>55% & > 75%):

All the operators comply with the TRAI standards.



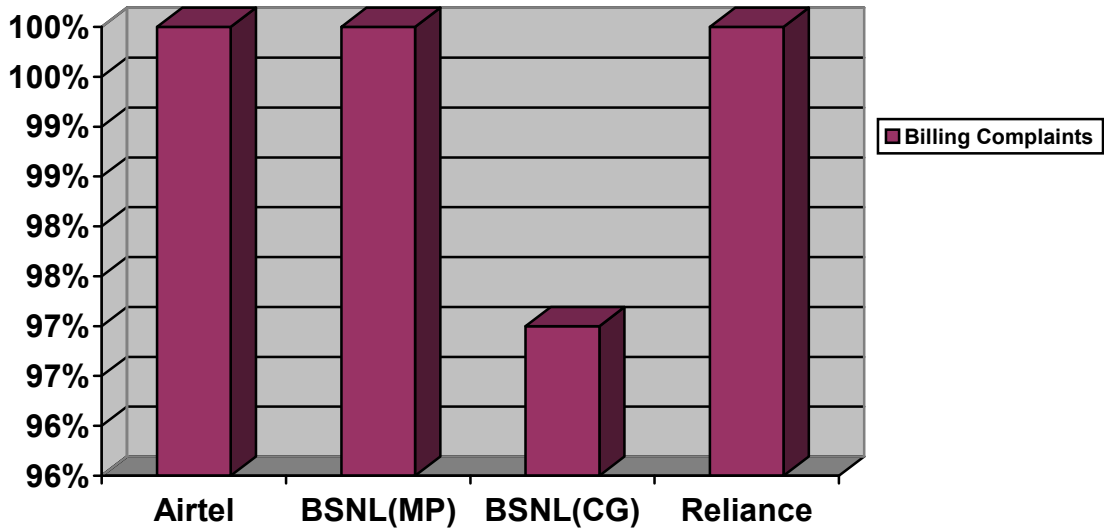
6.0 Metering and Billing Credibility (< 0.1%):

Disputed Bills over Bills issued:- All the operators comply with the TRAI standards.



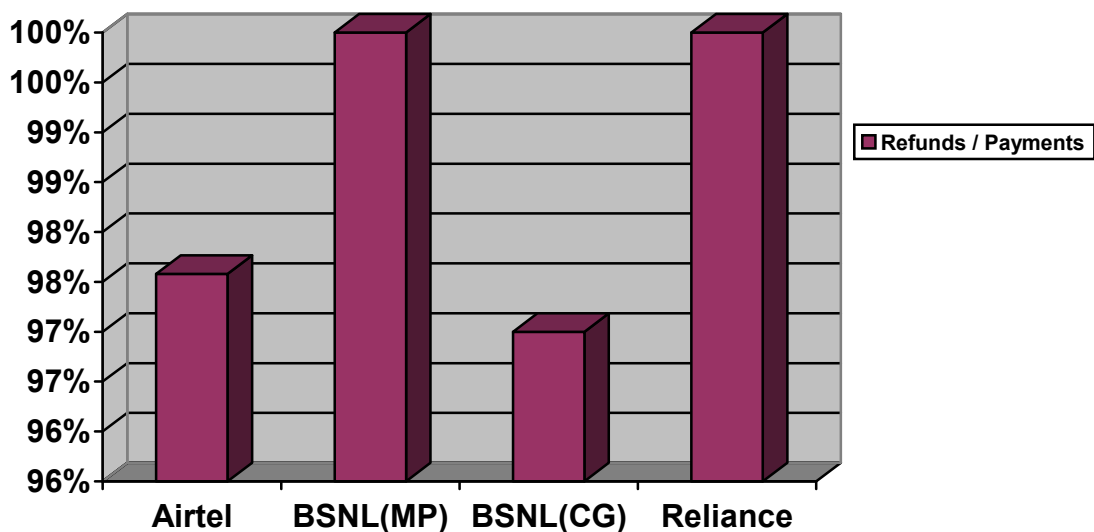
7.0 % of Billing Complaints resolved within 4 Weeks:

All the operators has resolved billing complaints 100% (benchmark) within 4 weeks except BSNL(CG)-97.46% complaints have been resolved.



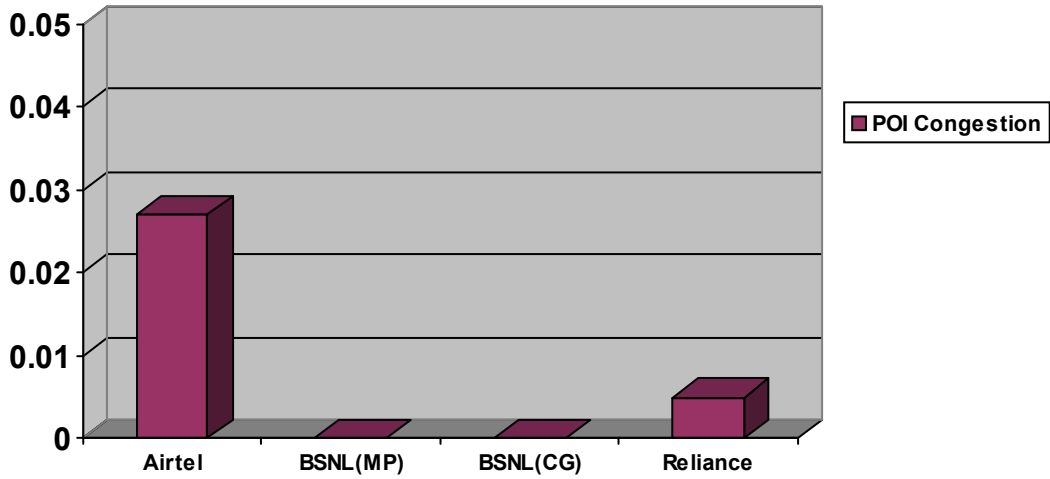
8.0 Period of All refunds / Payments from the date of Complaints Within 1 weeks:

As far as period of refunds from the date of complaints within 1 weeks Reliance & BSNL(MP) has refunds 100% cases ,but Airtel(97.58%) & BSNL(CG)-97.32% respectively.



9.0 POI Congestion :

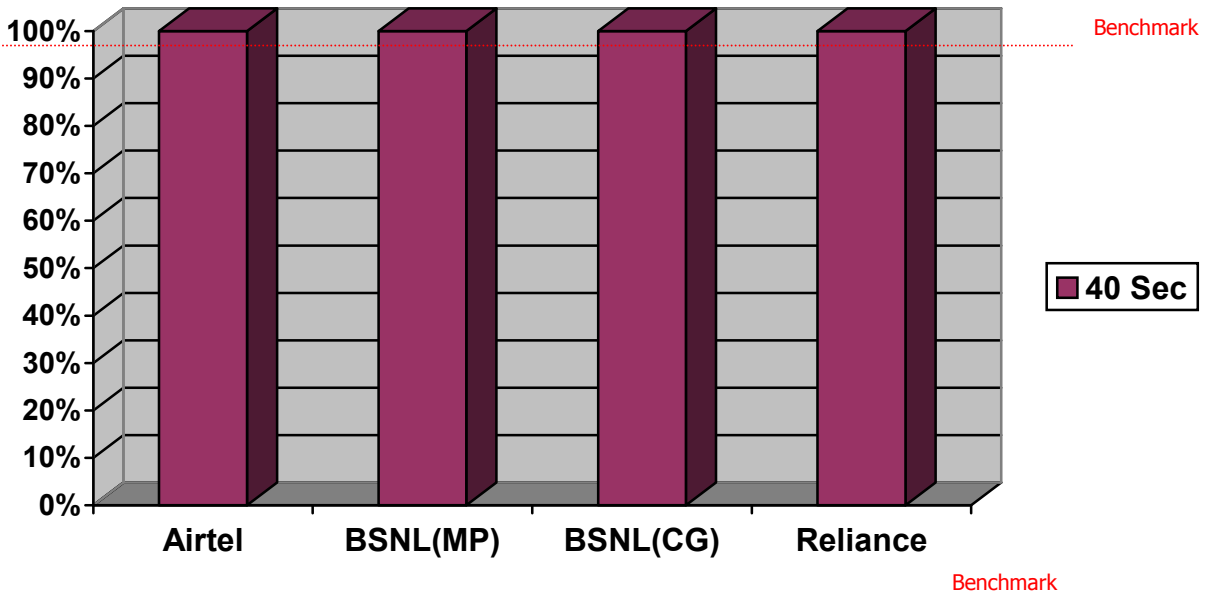
All the operators comply with the TRAI benchmark of $\leq 0.5\%$.



10.0 Response Time to Customer for Assistance:

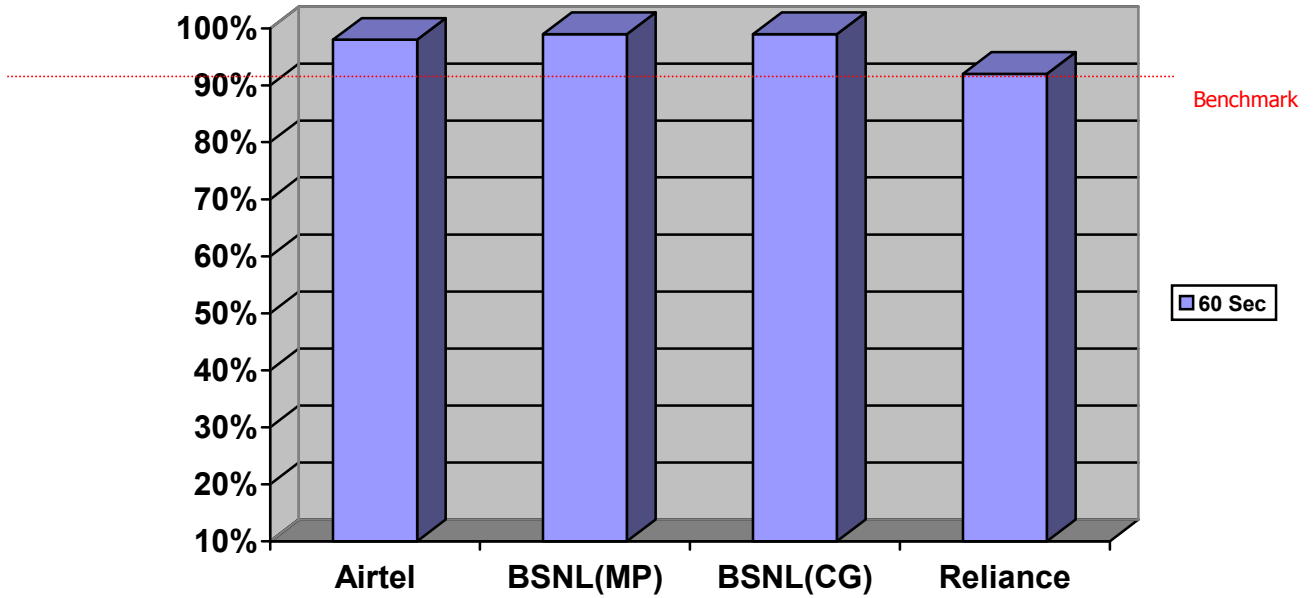
(10.1) Accessibility of Call centre / customer care (Electronically):

(A) Within 40 seconds (>95%): All the operators meeting the benchmark, set by TRAI.



.(10.2) % age of calls answered by operator (Voice to Voice)

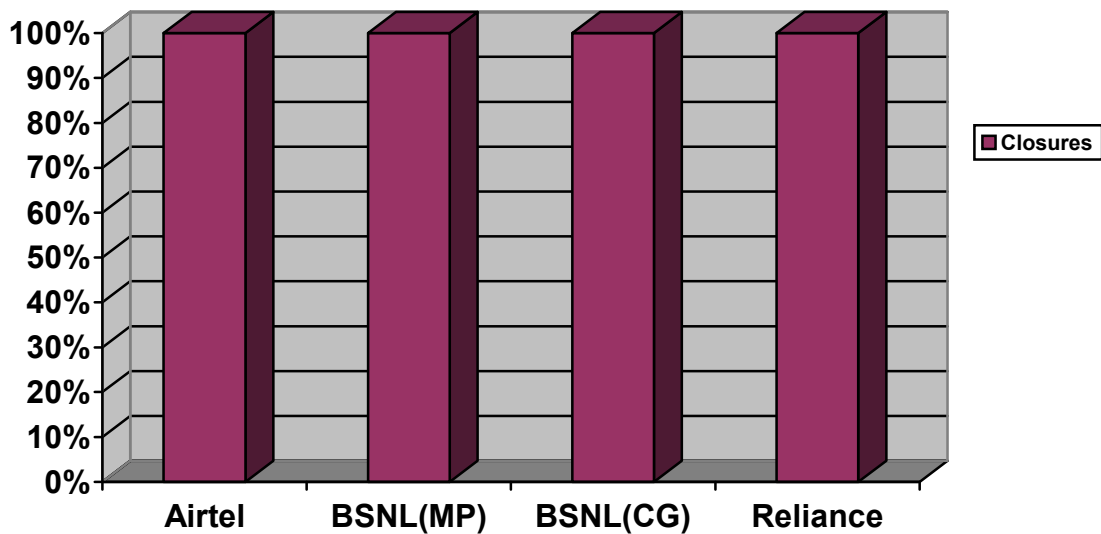
(B) Within 60 seconds (>90%): All the operators meet the TRAI benchmark



11.0 Customer Care Promptness in Attending Customer Request :

(11.1) Termination / Closures :(<= 7 Days)

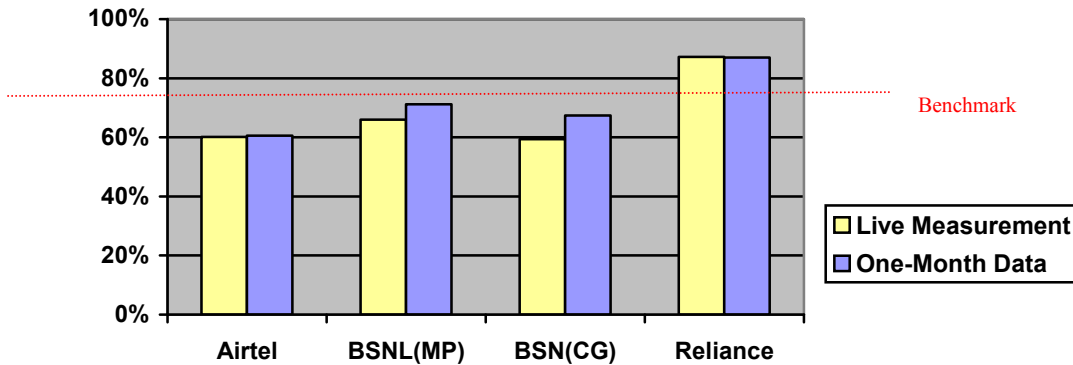
All the operators meet the benchmarks provided by TRAI within 7 Days.



7.1.4 Comparison between Live measurements and One month data Audit – Basic Service (Wireline).

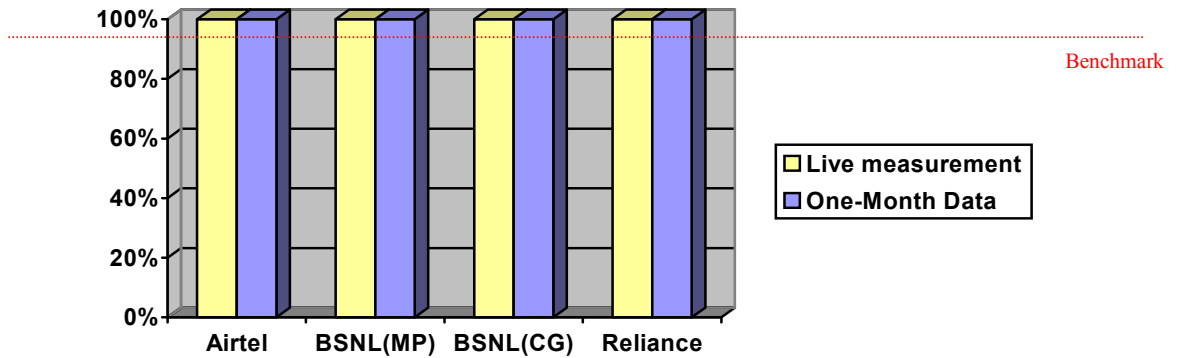
1.0 Call Completion Rate (>55%) & Answer to Seizure(>75%)

The performance based on Live measurement as well as One-Month Data match for all operators and they meet the benchmarks.



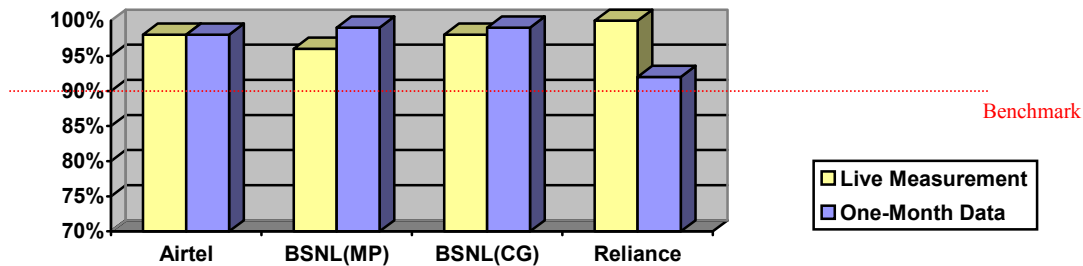
2.0 Response time to the customer for assistance:

(i) Accessibility of Call Centre / Customer Care 40 sec (> 95%.): All the operators meet the benchmark in 3 days and one month data.



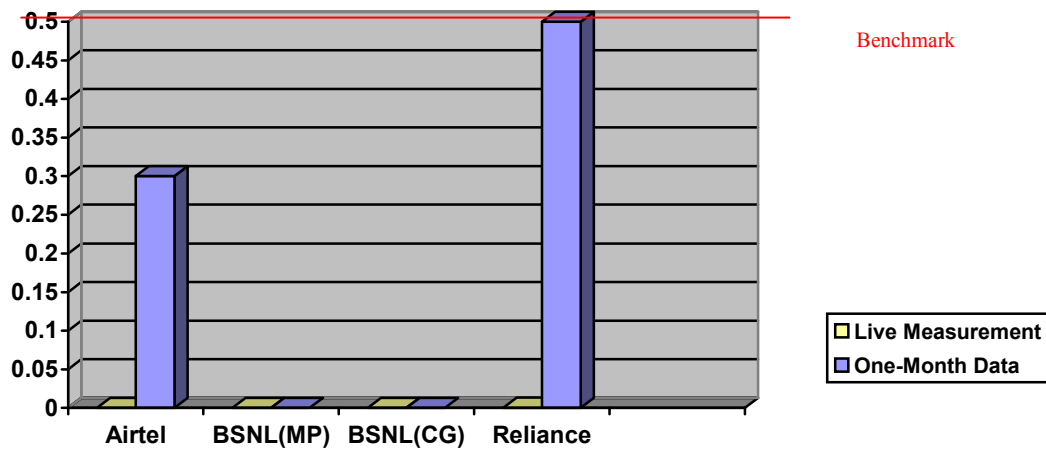
(ii) Calls Answered by operator Within 60 seconds (>90%) (Voice to Voice) :

The performance based on Live measurement as well as One-Month Data are matching and all the operators meet the benchmark.



3.0 POI Congestion (< 0.5%) :

The performance based on Live measurement as well as One-Month Data are similar for all the operators and meeting the benchmarks.



7.2 QUALITY OF SERVICE ASSESSMENT : CELLULAR MOBILE TELEPHONE SERVICES

7.2.1 Service Provider Performance Report based on AUGUST (2009) Month Data Verification in which Audit was conducted for the quarter (July 2009 – September 2009).

S/N	Name of Parameter	Bench mark	Vodafo ne	Airtel	Idea	BSNL (MP)	BSNL (CG)	RTL	TTSL	RCom.
(A)	Network Service Quality Parameter		GSM Operators					CDMA Operators		
1	Network Availability									
	(a) BTS Accumulated Downtime (not available for service)	<=2%	0.08 %	0.49 %	0.79 %	1.58 %	2.79 %	0.16 %	0.00 %	0.01 %
	(b) Worst affected BTSs due to downtime (%)	<=2%	1.96 %	1.16 %	1.92 %	1.88 %	14.20 %	0.44 %	0.00 %	0.006 %
2	Connection Establishment (Accessibility)									
	(a) Call Set-up Success rate (Within licensee's own network)	>=95%	98.45 %	97.10 %	97.76 %	95.77 %	90 %	98.31 %	99.11 %	99.35 %
	(b) SDCCH/PAGING channel congestion	<=1%	0.30 %	0.22 %	0.79 %	0.30 %	0.99 %	0.19 %	NP	0%
	(c)TCH congestion	<=2%	1.55 %	0.43 %	1.20 %	1.77 %	8.40 %	0.74 %	0%	0.17 %
3	Connection maintenance (retainability)									
	(a) call drop rate	<=2%	1.90 %	1.42 %	1.81 %	1.65 %	2.90 %	0.98 %	0.78 %	1.08 %
	(b) Worst affected cells having more than 3% TCH drop(call drop)rate	<=5%	19.31 %	14.30 %	13.72 %	7.91 %	24.05 %	0.03 %	0.88 %	0.75 %
	(c) connections with good voice quality	>=95%	96.50 %	94.22 %	95.30 %	*95.9 %	*84.7 %	*90.9 %	*96.4 %	*97.7 %
4	Point of Interconnections(POI) congestion(on individual POI)	<=0.5 %	0%	0%	0%	0.03 %	0%	0%	0%	0%
(B)	Customer Service Quality Parameters									
5	Metering and billing credibility- Post paid	<= 0.1%	0.69 %	0.16 %	0.006 %	0.007 %	0%	0.07 %	0.08 %	0.10 %
6	Metering and billing credibility- Pre paid	<= 0.0%	0.23 %	0.05 %	0.25 %	0.00 %	0.04 %	0.08 %	0.04 %	0.06 %
7	(a) Resolution of billing/ charging complaints	100% within 4 weeks	100 %	91 %	100 %	100 %	100 %	100 %	100 %	100 %

S/N	Name of Parameter	Bench mark	Voda fone	Airtel	Idea	BSN L (MP)	BSN L (CG)	RTL	TTS L	RCo m.
	(b) period of applying credit/waiver/adjustment to the customers account from the date of resolutions of complaints	<=1 week	<1 week	<1 week	<1 week	Nil	>1 week	<1 week	<1 week	<1 week
8	Response time to customers for assistance									
	(a) Accessibility of call centre/customer care	>=95%	99.20%	94.7%	100%	100%	100%	100%	99.9%	100%
	(b) Percentage of call answered by operators(voice to voice) within 60 seconds	>=90%	93.20%	88.2%	90%	85.1%	86.2%	93%	87.0%	90.1%
*9	* Termination/ closure of service	<=7days	<=7 days	>=7 days	>=7 days	<=7 days	<=7 days	<=7 days	<=7 days	<=7 days
10	Time taken for refunds of deposits after closures.	100% within 60 days	100%	32.9%	85.9%	100%	100%	100%	100%	100%

Indicates deviation from benchmark of TRAI.

NP- Data not provided.

Note:

* Data collected form Drive test as because the service provider have not provided the required data from there system. CDMA operator have reported that there system do not generate such data.

Vodafone have given data for the month of September while BSNL (MP) and BSNL (CG) provided month of data through 20 August to 10th September.

7.2.2 Critical findings and parameters wise key take outs - Cellular Mobile Telephone Services

- ◆ Audit has been done for all the MSC/VLR service areas of all the service providers, both GSM and CDMA operators in Madhya Pradesh & Chhatisgarh circle. Audit activity has been done in three stages as 3 days live assessment, one-month data audit & PMR validation. We have found all the service providers are meeting benchmark by and large except for BSNL (CG).
- ◆ Data has been collected for busy hour of network in live assessment & month of audit for all service providers & verified that service providers are providing busy hour data for QoS service. We found that TCBH hour is matching with network busy hour as provided by service providers for Madhya Pradesh & Chhatisgarh circle. But for parameters such as 'Worst affected cell exceeding 3% TCH drop' and 'BTSs accumulated down time' CBBH (Cell Busy Bounce Hour) was taken instead of TCBH (Time Consistent Busy Hours) as per the TRAI new regulation 2009 . This has resulted some high value deviation for 'Cell exceeding 3% TCH drop' parameter in terms of benchmark for some of the service providers. In all the cases both 3 days live data and 1 month data shows consistency with values being more or less equal.
- ◆ To test the Service Providers performance on Technical (Network related) & Non-Technical (Provisioning, Billing, Refund etc.) complaint, TCIL auditors have conducted a customer feedback calling for random 100 nos. of customers in each segment. It was found that more than 98% customers are satisfied with services provided by the operators.

The parameter wise key takeouts for the Cellular Mobile Telephone Services providers for the Madhya Pradesh & Chhatisgarh Circle are as under:-

BTS Accumulated downtime (benchmark $\leq 2\%$): All operators are meeting benchmark except BSNL (CG) with a value of 2.79%.

Worst affected BTSs due to downtime (benchmark $\leq 2\%$): All operators are meeting benchmark except BSNL (CG) with a value of 14.2%.

Call setup success rate (benchmark $\geq 95\%$): All operators are meeting benchmark except BSNL (CG) with a value of 90%.

SDCCH/PAGING Channel congestion (benchmark $\leq 1\%$): All operators are meeting benchmark for one-month data validation.

Note: TTSL have not provided the data for Paging Channel congestion as they have reported SNG (System Not Generated).

TCH congestion (benchmark $\leq 2\%$): All operators are meeting benchmark for one-month data validation except BSNL (CG) showing 8.4%.

Call drop rate (benchmark $\leq 2\%$): All operators are meeting benchmark except BSNL (CG) with a value of 2.9%.

Cell exceeding 3% TCH drop (benchmark $\leq 5\%$): Except for CDMA operators and Reliance Telecom (RTL) none of the GSM operators are meeting the benchmark and the differences are of significant values. The same have been observed in live data audit report also.

Connections with good voice quality (benchmark $\geq 95\%$): Both BSNL (MP and CG) and TTSL have not provided the data for Connections with good voice quality And for TTSL and RCom being CDMA operators have declared that the parameter is not system generated (SNG). Rest of the operators are meeting the benchmark except Airtel with a value of 94.22%, a marginal deviation. While in live data we find that BSNL(MP & CG) and RTL are not meeting the benchmark.

POI Congestion (benchmark $\leq 0.5\%$): All the operators are meeting the benchmark.

Metering and billing credibility-Post paid (benchmark $\leq 0.1\%$): Except for Vodafone and Airtel with values of 0.69% and 0.16%, rest of the service provider are meeting the benchmark.

Metering and billing credibility-Pre paid (benchmark $\leq 0.1\%$): Except for Vodafone and Idea with values of 0.23% and 0.25%, rest of the service provider are meeting the benchmark.

Resolution of billing/ charging complaints (benchmark 100% within 4 weeks): Except for Airtel with value of 91%, rest of the service provider are meeting the benchmark.

%age of call answered by operator (electronically) (benchmark $>95\%$): All operators are meeting benchmark except Airtel with a value of 94.7%.

%age of call answered by operator (Voice to voice) (benchmark $>90\%$): All operators are meeting benchmark except Airtel, BSNL MP, BSNL CG and TTSL with a value of 88.2%, 85.1%, 86.2% and 87.06% respectively.

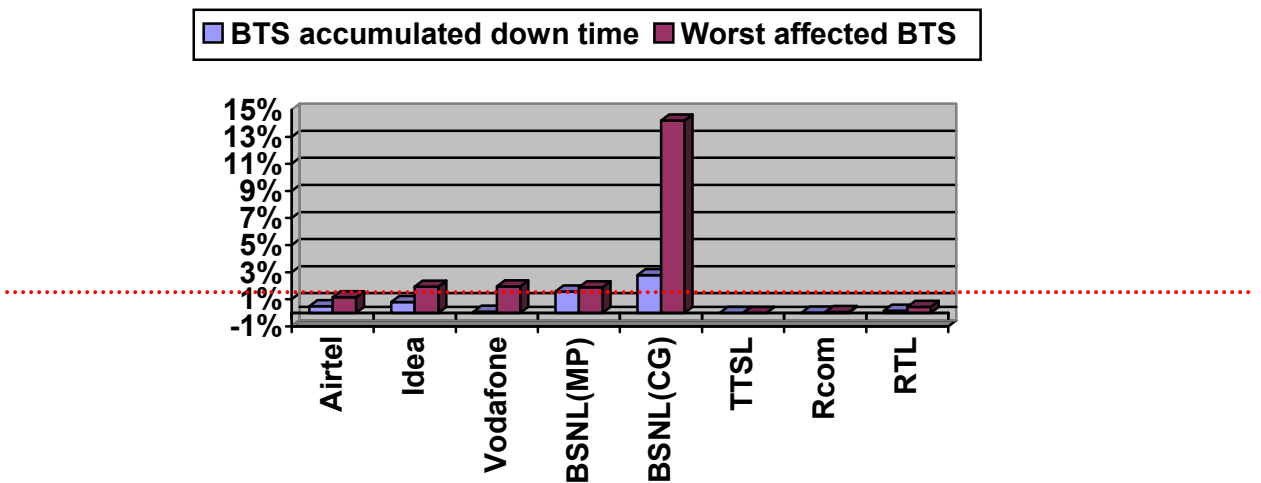
Time taken for refunds of deposits after closures (benchmark 100% within ≤ 60 days): Except for Airtel and Idea with values of 32.9% and 85.9% of return of funds within 60 days, rest of the service provider are meeting the benchmark.

7.2.3 Parameter wise Data Analysis & Graphical Representations – Cellular Mobile Telephone Services

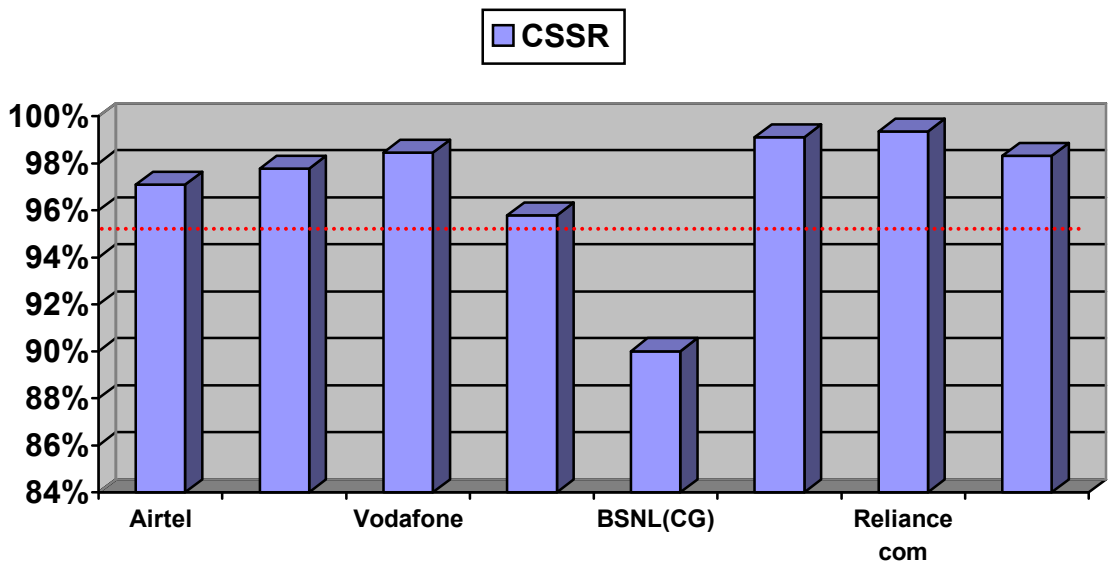
A) NETWORK PERFORMANCE

1) BTS Accumulated down time (not available for service) (Benchmark $\leq 2\%$): All operators are meeting benchmark except BSNL (CG) with a value of 2.79%.

2) Worst affected BTS due to downtime (Benchmark $\leq 2\%$): All operators are meeting benchmark except BSNL (CG) with a value of 14.2%.



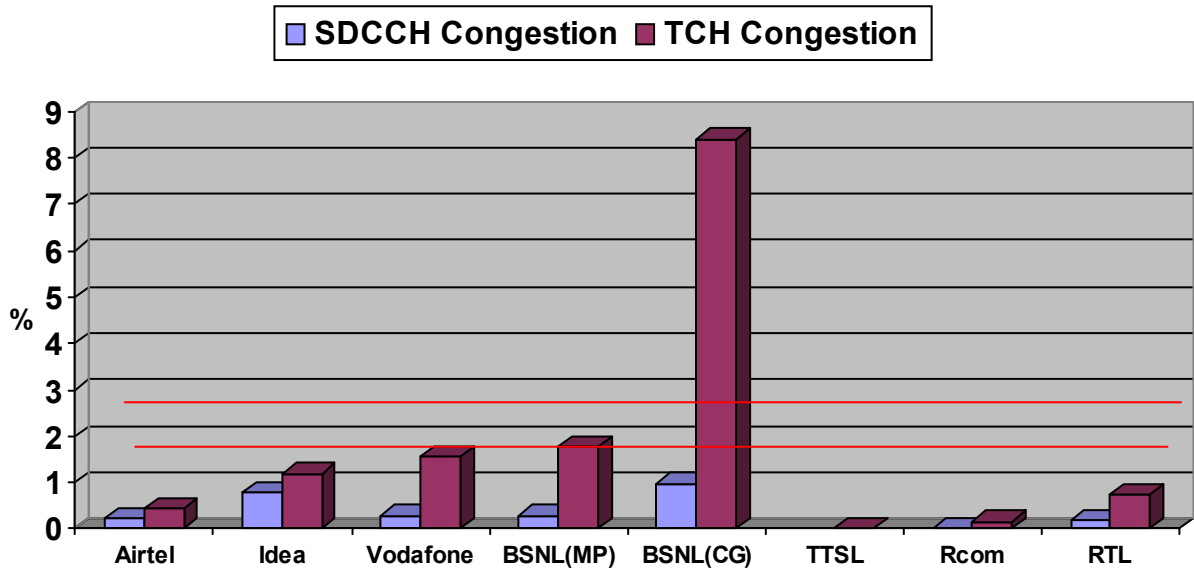
a. **Call setup success rate:** (Benchmark ≥ 95): All operators meet benchmark except BSNL (CG) with a value of 90%.



4) **SDCCH/PAGING Channel congestion (benchmark <= 1%)**: All operators are meeting the benchmark for one-month data validation.

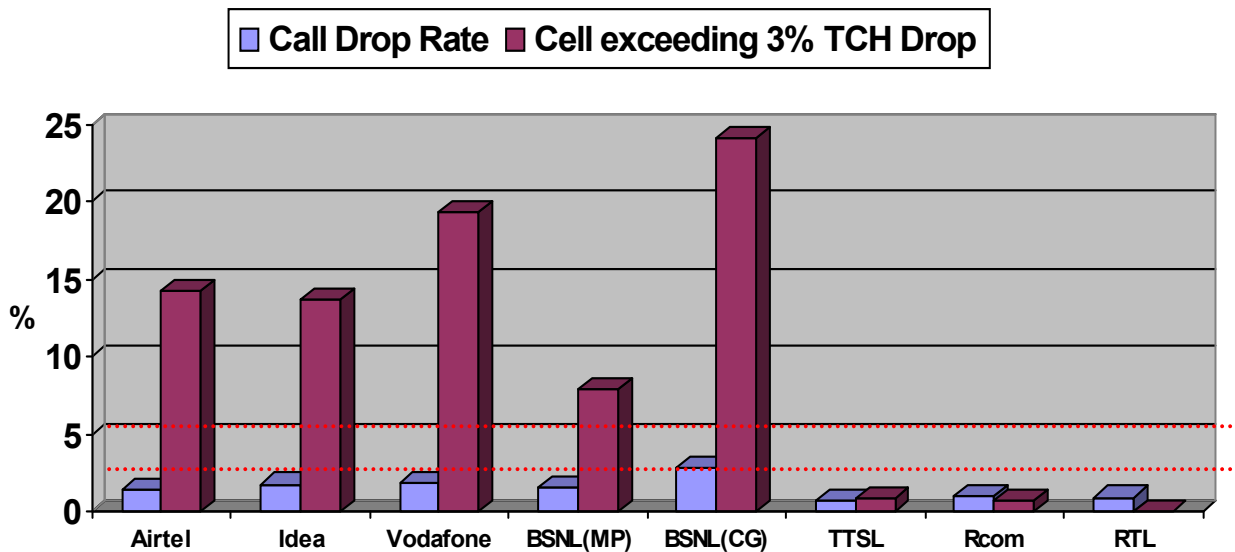
Note: TTSL has not provided the data for Paging Channel congestion.

5) **TCH congestion (benchmark <= 2%)**: All operators are meeting benchmark for one-month data validation except BSNL (CG) showing 8.4%.

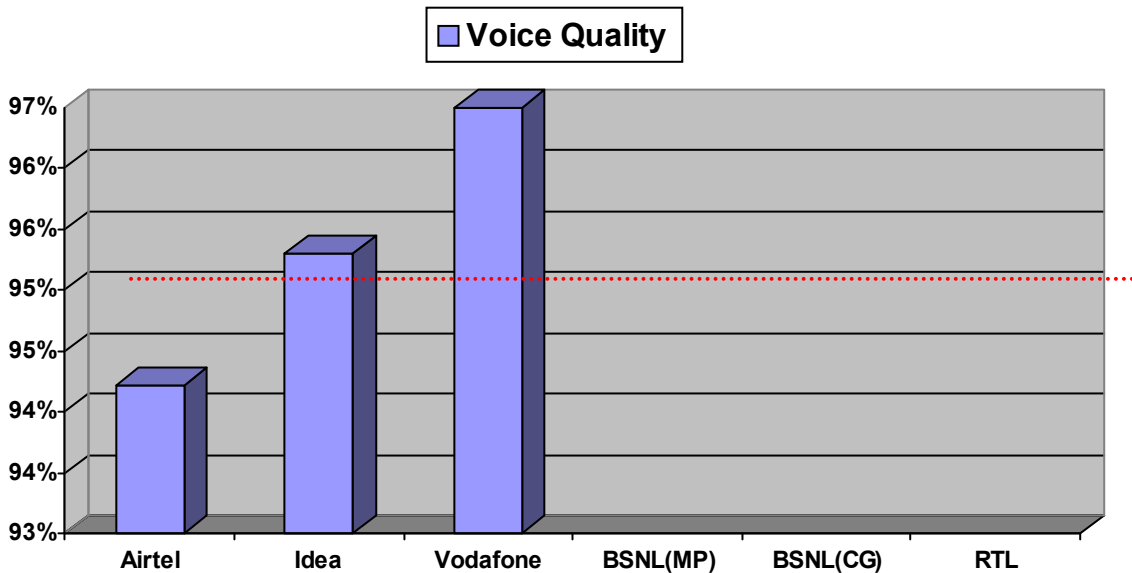


6) **Call drop rate (%) (Benchmark <= 2%)**: All operators meet benchmark except BSNL (CG) having a value of 2.9%. However Vodafone, Airtel, Idea and BSNL (MP) are having higher values with marginal gap within the benchmark specified.

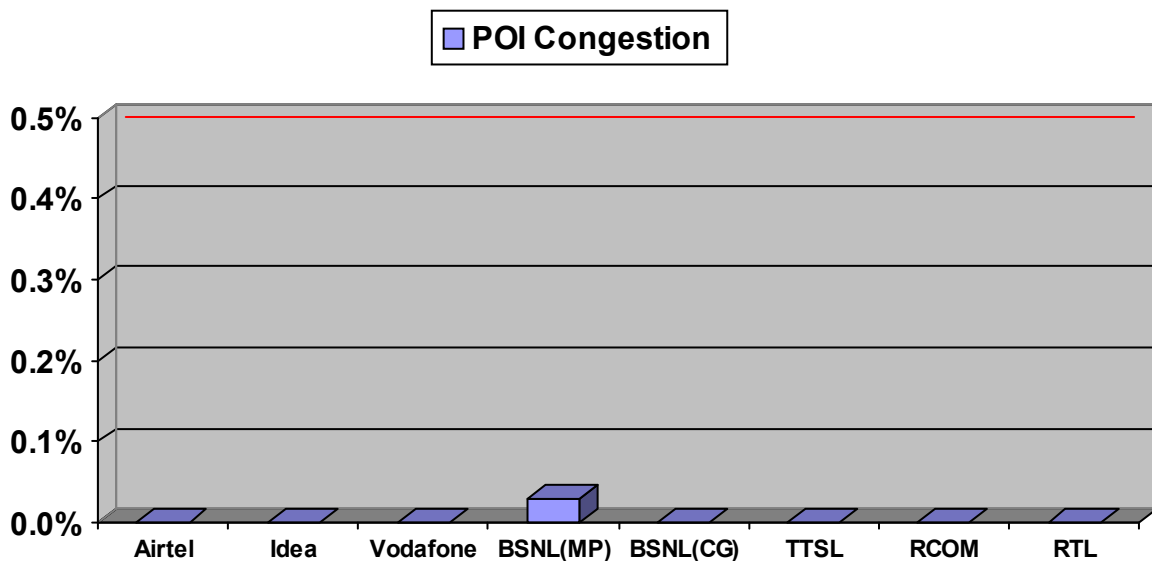
7) **Percentage of Cell exceeding 3% TCH drop (benchmark <= 5%)**: Except for CDMA service and Reliance telecom none of the GSM operators are meeting the benchmark and the differences are of significant values. The same have been observed in live data audit report also.



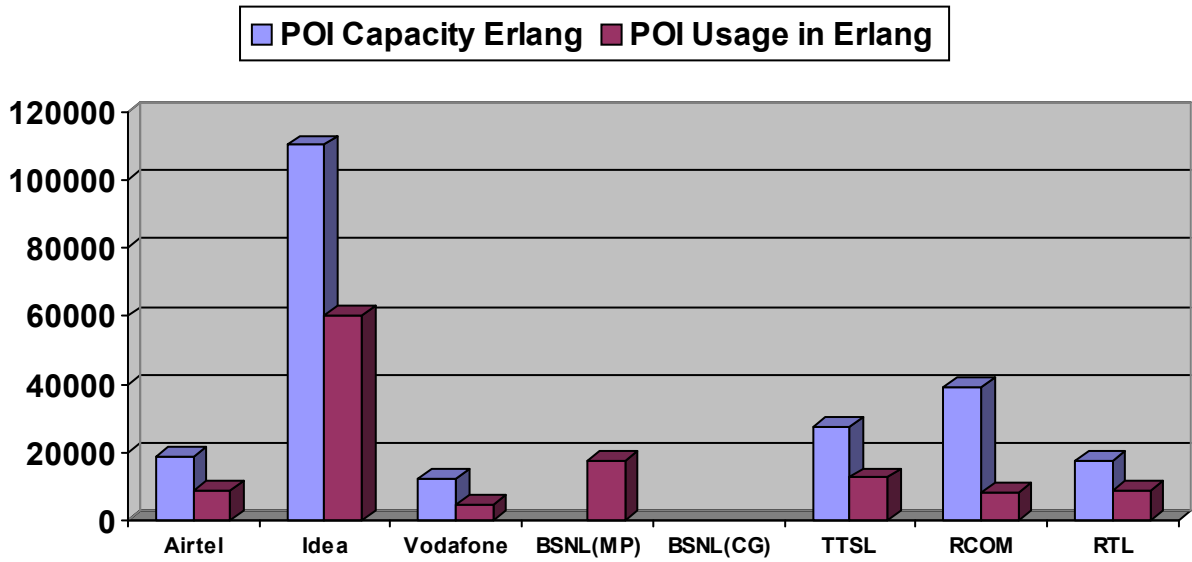
- a. **Percentage of connections with good voice quality (benchmark $\geq 95\%$):** Idea and Vodafone are meeting the benchmark and Airtel with a value of 94.22%, a marginal deviation. While in live data we find that BSNL (MP & CG) and RTL are not meeting the benchmark. Both BSNL (MP and CG) and TTSL have not provided the data for Connections with good voice quality. And for TTSL and RCom being CDMA operators have declared that the parameter is not system generated (SNG).



- b. **POI Congestion: ($<0.5\%$):** All the operators are meeting the benchmark. However 3 nos. of POI in Airtel shows congestion (GMSC IND-Airtel NLD, Indore MSD-Rel ILD and IND MSC-Sidhi POI) where overflow happens. However net congestion is zero for Airtel.



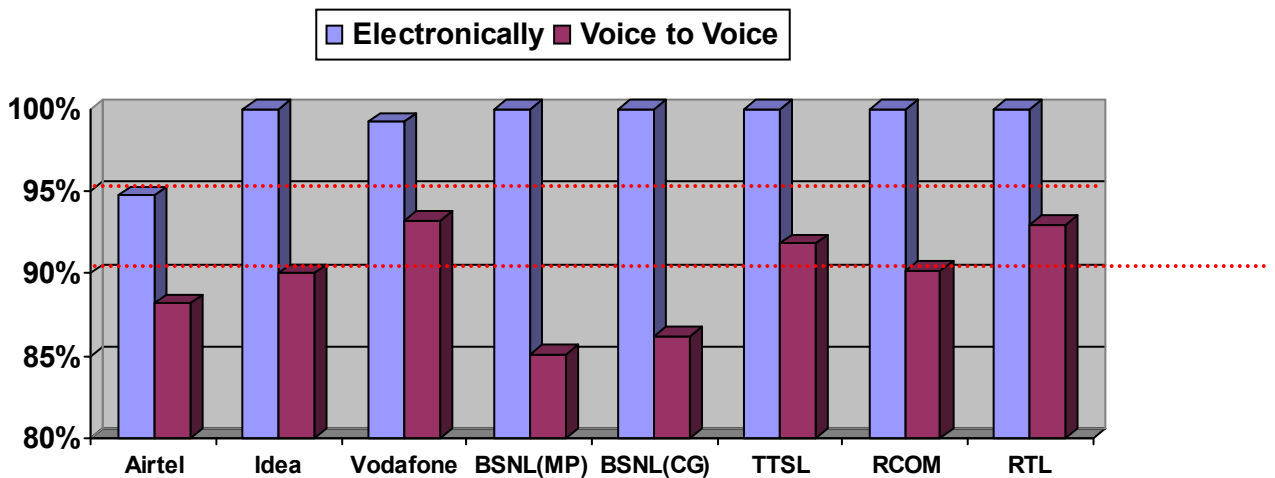
- c. Erlang usage on POI for month data: It can be seen that Capacity for POIs and utilization in terms of Erlang for respective operators have huge differences in addition with the advantage of overflow technique there seem to be no congestion on POIs.



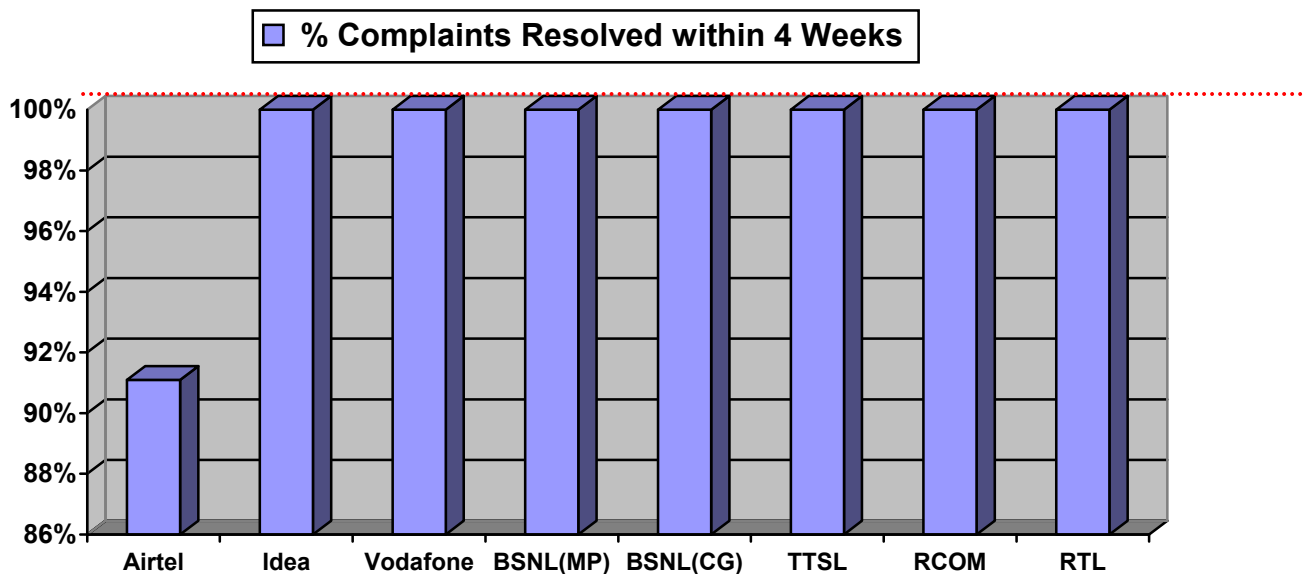
B) CUSTOMER SERVICE QUALITY PARAMETERS:

10) Percentage of call answered (Electronically) (benchmark $\geq 95\%$): All operators are meeting the TRAI benchmark except Airtel with a value of 94.7%.

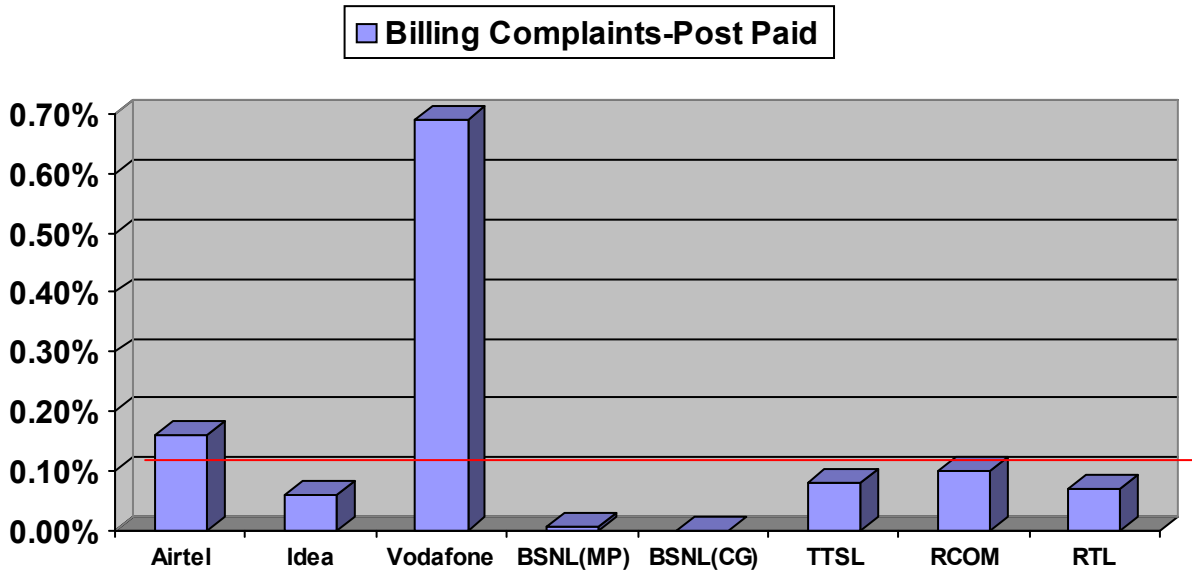
11) Percentage of call answered by operator (Voice to voice) (benchmark $\geq 90\%$): All operators are meeting benchmark except Airtel, BSNL MP, BSNL CG and TTSL with a value of 88.2%, 85.1%, 86.2% and 87.06% respectively.



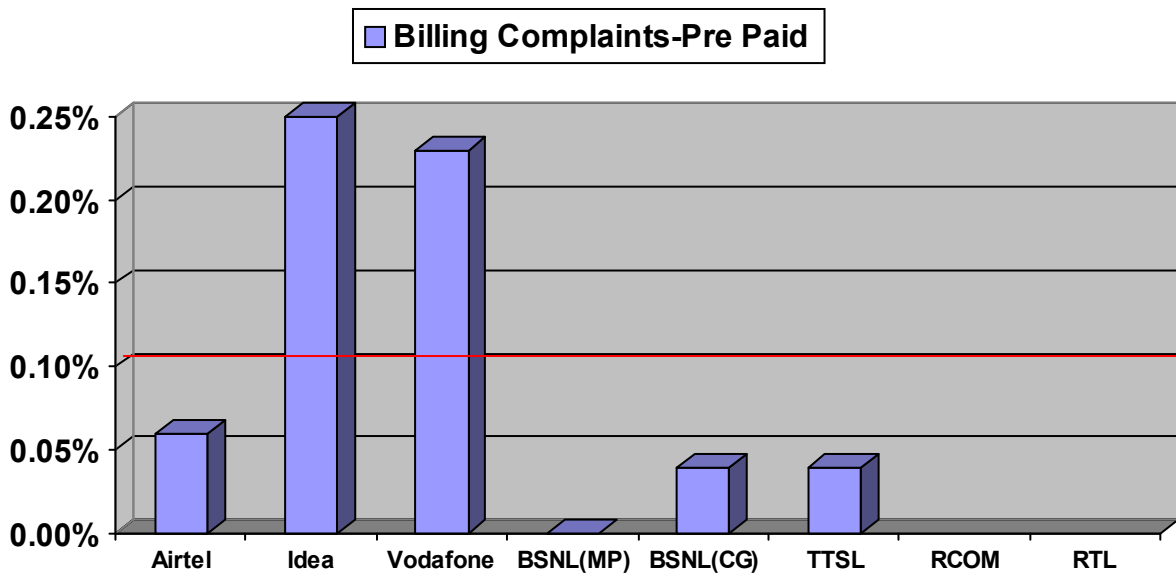
12) Percentage of Billing Complaints resolved within 4 weeks: (100%): Except for Airtel with value of 91%, rest of the service provider are meeting the benchmark.



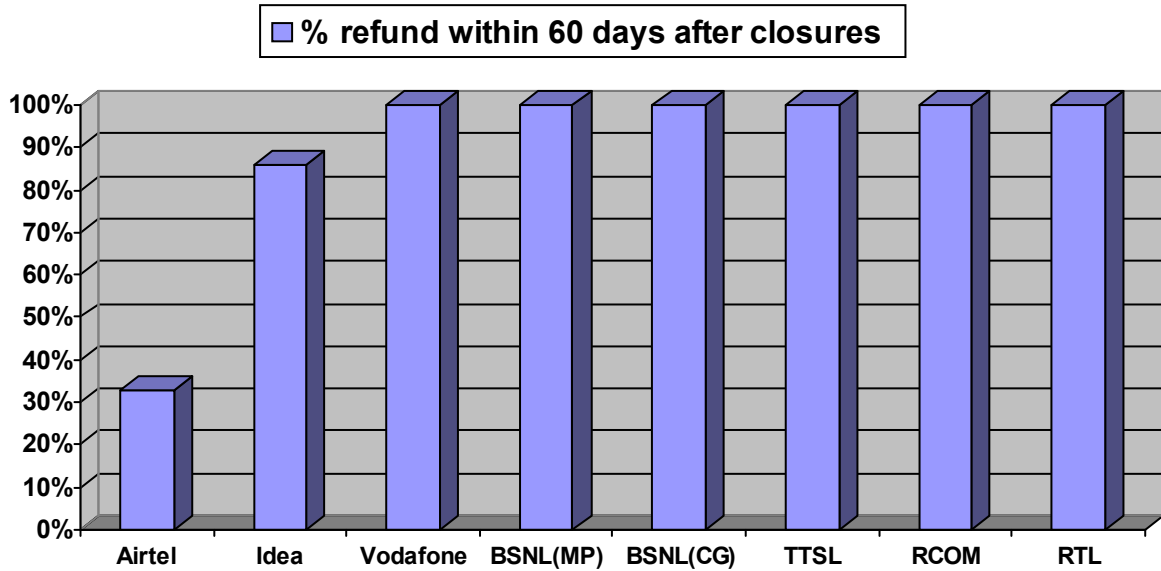
13) Metering and billing credibility-Post paid (benchmark <= 0.1%): Except for Vodafone and Airtel with values of 0.69% and 0.16%, rest of the service provider are meeting the benchmark.



14) Metering and billing credibility-Pre paid (benchmark <= 0.1%): Except for Vodafone and Idea with values of 0.23% and 0.25%, rest of the service provider are meeting the benchmark.



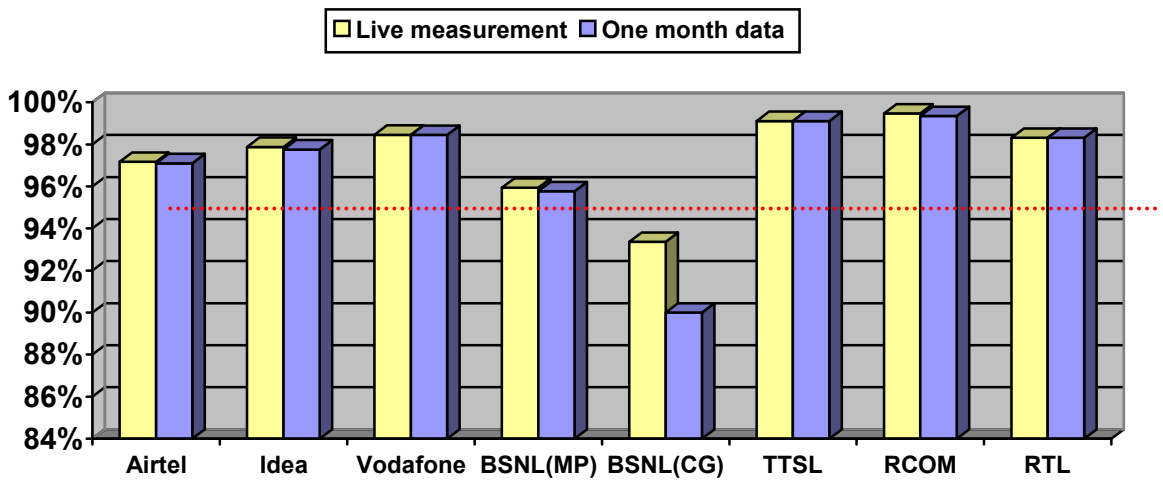
15) Time taken for refunds of deposits after closures (benchmark 100% in <= 60 days): All service providers except Airtel and Idea with values of 32.9% and 85.9% are meeting the benchmark.



7.2.4 Comparison between Live measurements and One month data Audit – Cellular Mobile Telephone Services

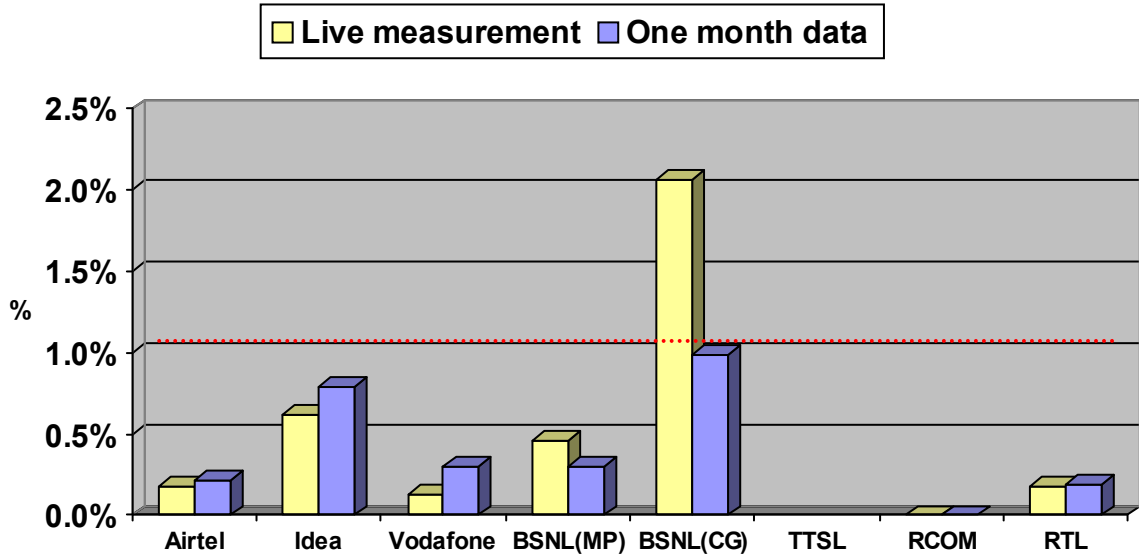
A) NETWORK PERFORMANCE

I. **Call setup success rate:** All operators are meeting the TRAI benchmarks ($\geq 95\%$) for both one month data and 3 days live data taken in the month of audit, except BSNL (CG) fails.

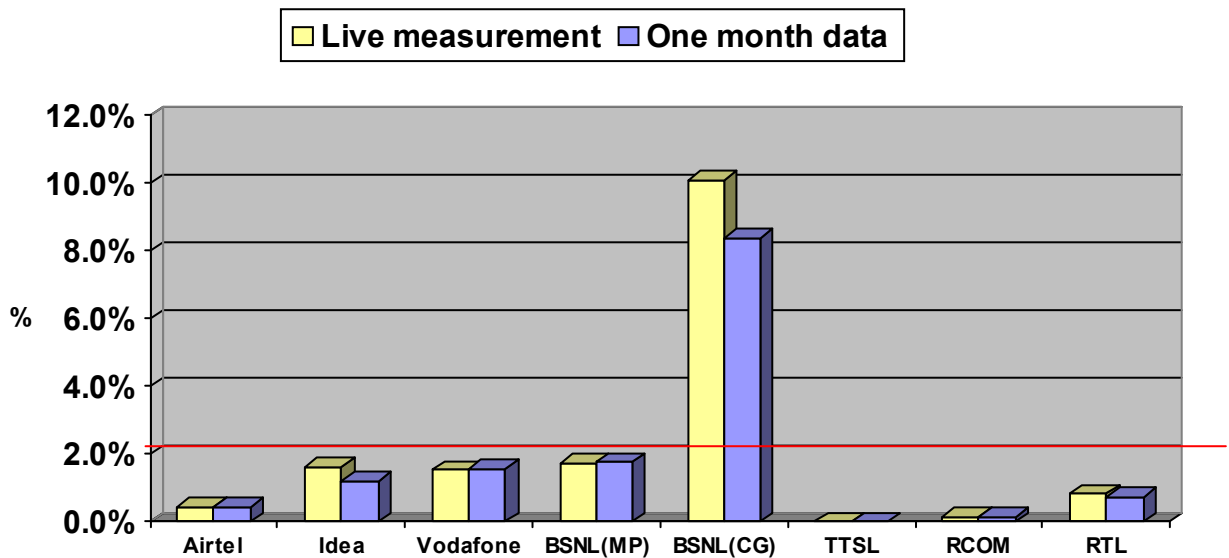


II. **Blocked call rate:**

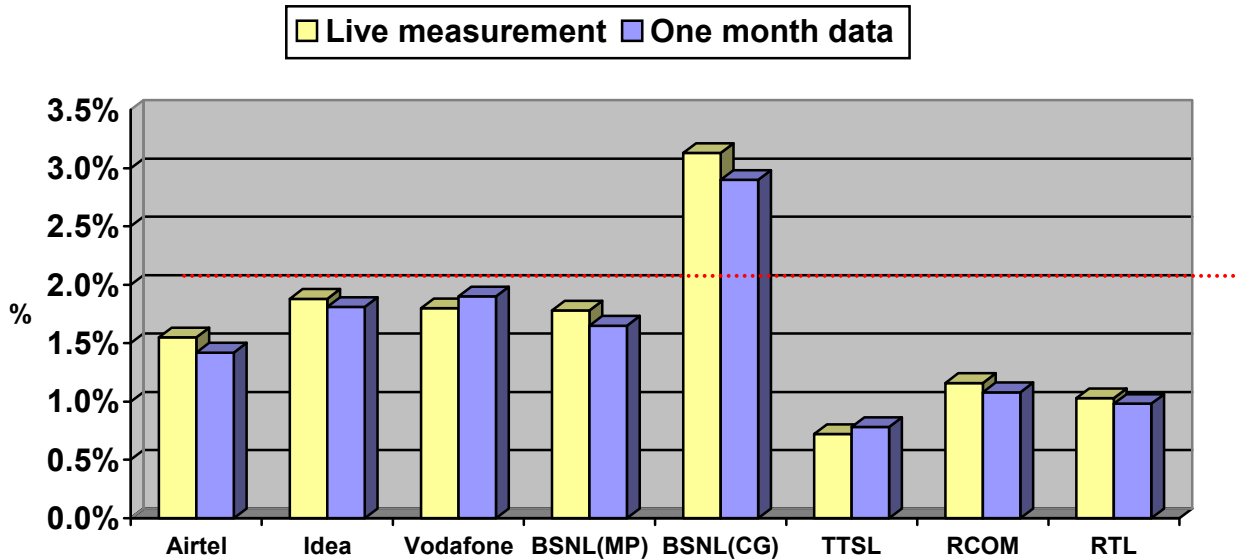
- (1) **SDCCH congestion (%)**: All operators are meeting the TRAI benchmarks ($\leq 1\%$) for both one month data and 3 days live data taken in the month of audit, except BSNL (CG) failing to meet benchmark, on live data.



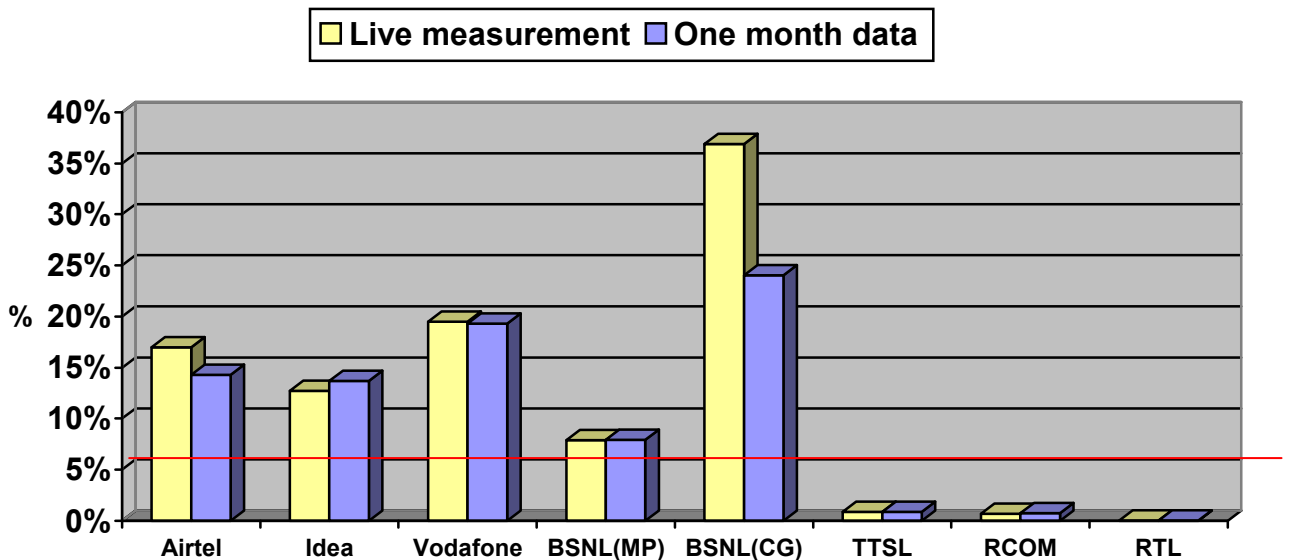
- (2) **TCH congestion (%)**: All operators are meeting the TRAI benchmarks ($\leq 2\%$) for both one month data and 3 days live data taken in the month of audit, except BSNL (CG) failing to meet benchmark, in both the cases.



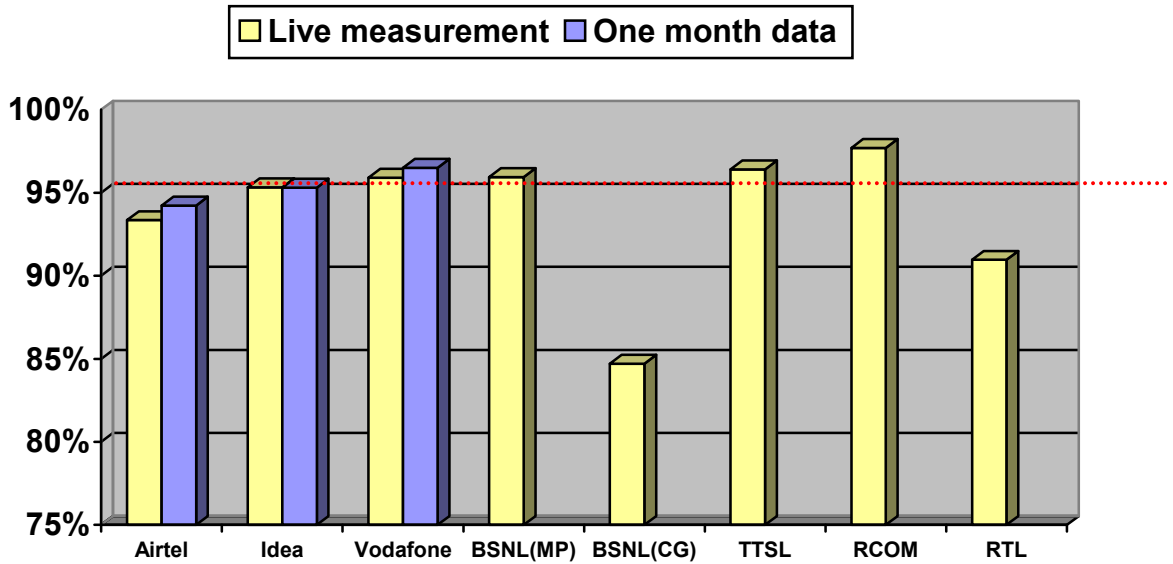
III. 1) **Call drop rate (%):** All operators are meeting the TRAI benchmarks ($\leq 2\%$) for both one month data and 3 days live data taken in the month of audit, except BSNL (CG) failing to meet benchmark, in both the cases.



2) **Worst affected Cell exceeding 3% TCH Drop:** All the GSM operators are not meeting the benchmark in both one month data and 3 days live data taken in the month of audit, except for RTL. But to be noted that all the CDMA operators are meeting the benchmark.

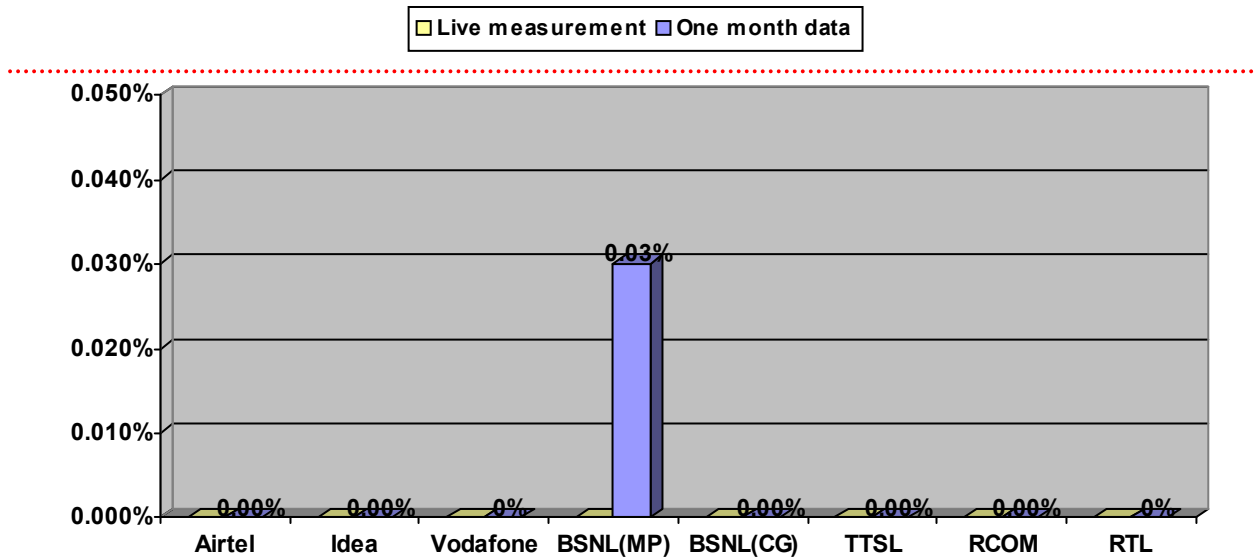


3) Percentage of connections with good voice quality (benchmark => 95%): All operators are meeting the TRAI benchmarks for both one month data and 3 days live data taken in the month of audit except for Airtel, BSNL (CG) and RTL and it may be noted that BSNL (CG), TTSL, RCom and RTL have not provided the one month data.



IV. POI Congestion:

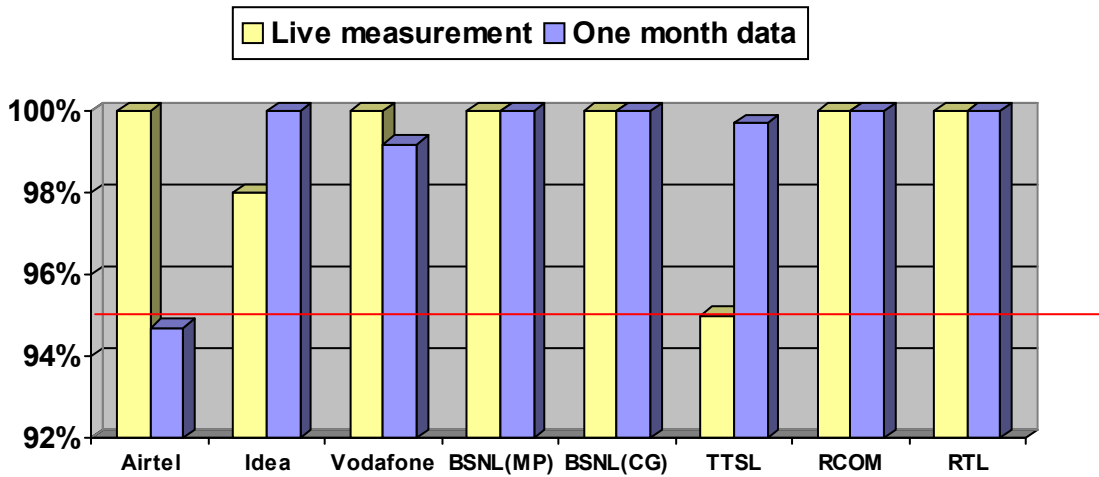
All operators are meeting the benchmark ($\leq 0.5\%$).



B) CUSTOMER SERVICE QUALITY PARAMETERS

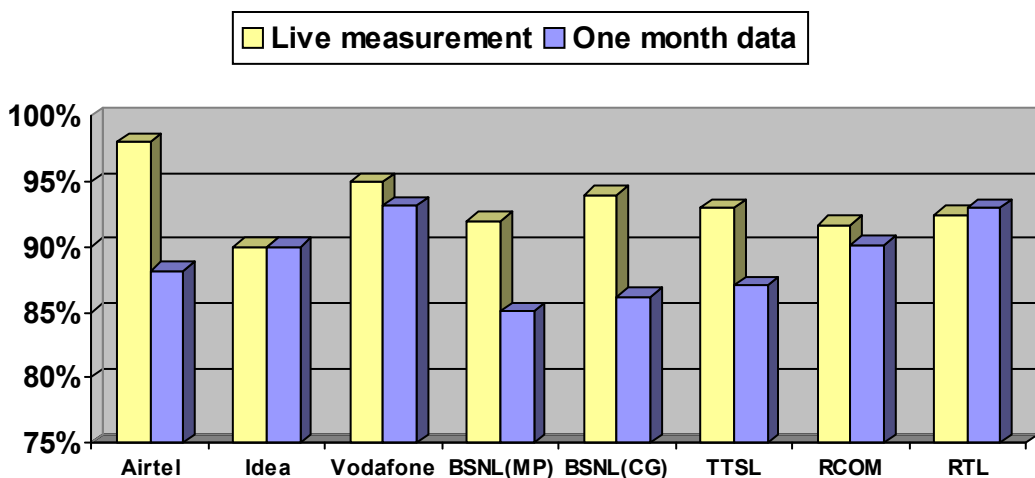
Response time to the customer for assistance:
 III. Percentage of call answered (Electronically);

(i) All operators are meeting the TRAI benchmarks ($\geq 95\%$) for both one month data and 3 days live data taken in the month of audit, except Airtel is failing marginally to do so in case of one month data.



Percentage of call answered by operators (Voice to voice);

(i) **With in 60 sec:** All operators meet benchmark ($\geq 90\%$) for both one month data and 3 days live data taken in the month of audit, except Airtel, BSNL (MP), BSNL (CG) and TTSL failing to meet benchmark, in the case of live performance.



7.3 QUALITY OF SERVICE ASSESSMENT : BROADBAND SERVICE

7.3.1 Service Provider Performance Report based on One Month Data Verification in which Audit was conducted (July 2009 – September 2009).

S.N.	Parameters	Benchmark	Airtel	BSNL (MP)	BSNL (CG)	Reliance Comm.	SIFY	VSNL
1	Service Provisioning /Activation Time							
1.1	100% cases in 15 days (subject to technical feasibility)	<15 working days	100%	100%	100%	100%	100%	100%
1.2	In all cases where payment towards installation charge & security deposit is taken and the Broadband connection is not provided within 15 working days	A credit at the rate of Rs.10/ per day, subject to a maximum of installation charge or equivalent usage allowance shall be given to the customer, at the time of issue of first bill.	0	0	0	0	0	0
2	Fault Repair / Restoration Time							
	By next working day:	> 90%	91%	90%	94.12%	100%	96.55%	68%
	within 3 working days:	99%	97%	100%	99.87%	100%	100%	98%
2.1	Rebate:							
	Faults Pending for > 3 working days and < 7 working days: (Rebate equivalent to 7 days of minimum monthly charge or equivalent usage allowance)		96	0	6	0	0	2807
	Faults Pending for > 7 working days and < 15 working days: (Rebate equivalent to 15 days of minimum monthly charge or equivalent usage allowance)		10	0	9	0	0	150
	Faults Pending for > 15 working days: (Rebate equivalent to one month of minimum monthly charge or equivalent usage allowance)		1	0	9	0	0	13
3	Billing Performance							
	Billing complaints per 100 bills issued	< 2%	0.80%	0.12%	0.05%	0.01%	Not Applicable as SIFY is under Prepaid Module	0%
	%age of Billing Complaints resolved	100% within 4 weeks	100%	100%	100%	100%		100%
	Time taken for refund of deposits after closure:	100% within 60 days	100%	100%	100%	100%		No customer eligible.

S.N.	Parameters	Benchmark	Airtel	BSNL (MP)	BSNL (CG)	Reliance Comm.	SIFY	VSNL
4	Response time to the customer for assistance							
	% age of calls answered by operator (Voice to Voice)							
	Within 60 seconds	> 60%	94%	98.97%	92.13%	91.4%	100%	94%
	Within 90 seconds	> 80%	97.23%	100%	96.15%	95%	100%	99%
5	Bandwidth Utilization/ Throughput:							
	Bandwidth Utilization (If on any link(s) / route bandwidth utilization exceeds 90%, then network is considered to have congestion. For this additional provisioning of Bandwidth on immediate basis, but not later than one month, is mandated.)	< 80% link(s) / route bandwidth utilization during peak hours (TCBH).						
	i) POP to ISP Gateway Node [Intra-network] Link(s)		35.7%	27.90%	91.66%	24.25%	64.32%	NP
	ii) ISP Gateway Node to IGSP / NIXI Node upstream Link(s) for International connectivity		48.66%	36.42%	52.19%	NA	56.74%	NP
	Broadband Connection Speed (download) - from ISP Node to User	> 80%	98%	90.14%	87%	98%	94%	>85%
6	Service Availability / Uptime (for all users)							
	With effect from quarter ending September 2007 and onwards	> 98%	99.97%	100%	99.73%	100%	100%	99.60%
7	Packet Loss	< 1%	0	0%	0%	0.42%	0.10%	0%
8	Network Latency (for wired broadband access)							
	User reference point at POP / ISP Gateway Node to International Gateway (IGSP/NIXI)	< 120 msec	87ms	NP	NP	20 ms	31ms	<80 ms
	User reference point at ISP Gateway Node to International nearest NAP port abroad (Terrestrial)	< 350 msec	67ms	NP	NP	NA	269.6 ms	<180ms
	User reference point at ISP Gateway Node to International nearest NAP port abroad (Satellite)	< 800 msec	NA	NA	NA	NA	NA	NA

■ Indicates deviation from benchmark of TRAI.

NA – Not Applicable

NP – Not Provided.

The Satellite link does not exist with any of the Operator, hence the parameter “ 4.3 User reference point at ISP Gateway Node to International nearest NAP port abroad (Satellite)” is not applicable to the above Operators.

- VSNL : parameters 2.1 & 4 contains data on all India basis.

- Reliance: ISP gateway is in Mumbai, Delhi, Chennai. Hence No Upstream Link for MP-CG Circle.

Critical findings and Key take outs

7.3.2 Broadband service

- ◆ Reliance and SIFY is submitting the PMR on all India basis, hence data is verified on All India basis not for particularly for Madhya Pradesh & Chhatisgarh Circle.
- ◆ The Satellite link does not exist with Operators, hence the parameter “User reference point at ISP Gateway Node to International nearest NAP port abroad (Satellite)” is not applicable to the Operator.
- ◆ To test the Service Providers performance on Technical (Network related complains) & Non-Technical (Provisioning, Billing, Refund etc.) complaint handling TCIL auditors have conducted a customer feedback calling for random 100 nos of customers in each segment. It was found that more than 95% customers are satisfied with services provided by the operators.

The key conclusions (Parameter wise) emerging out from the Audit exercise of Broadband service providers are highlighted below

Service provisioning/Activation time

All the service providers are performing well and meeting the benchmarks for service provisioning .

Fault Repair/Restoration time & Rebate

All the operators are meeting the benchmark of more than 90% for fault repair by next working day except VSNL and for fault repaired within 3 working days, except for VSNL deviating marginally.

All the service providers are found to providing Rebate as per the guide lines set by TRAI.

Billing performance

All the operators are meeting the benchmark of Less than 2% for billing complaints. Also all the operators are meeting the benchmark of “100% cases 4 weeks” for billing complaint resolution for on-month data verifications. All the operators are providing the refund of deposits after closure as per the benchmark of “100% cases within 60 days”.

Sify claims that all its broadband customers are prepaid and hence there are no bills issued.

Customer Care/Helpline Assessment

All the service providers meet the benchmark for both live Measurement as well as One month data verification, for both the parameters response time to the customer for assistance (Voice to Voice) within 60 and 90 seconds.

Bandwidth Utilisation:

All the operators are meeting the benchmarks for bandwidth utilisation – POP to ISP Gateway Node (intra-network) links for both live Measurement and One month data verification.

All the operators are meeting the benchmarks for Bandwidth utilisation – ISP Gateway Node to IGSP/ NIXI Node upstream links for International connectivity for both live Measurement and one month data verification. Reliance does not have separate upstream links for Madhya Pradesh & Chhatisgarh Circle as their ISP Gateway is at Mumbai, Delhi & Chennai.

Download speed

All the operators are meeting the TRAI benchmark of greater than 80% connection speed during live measurements and one-month data verification.

Service Availability/Uptime:

All the operators are meeting the TRAI benchmark of greater than 98% during one-month data verification.

Packet Loss

All the operators are meeting the TRAI benchmark of less than 1% during live measurements and one-month data verification.

Network Latency

All the operators are meeting the TRAI benchmarks less than 120ms for “User reference point at POP/ISP Gateway node to IGSP/NIXI” and benchmark less than 350ms for “User reference point at ISP Gateway node to IGSP/NIXI” during live measurements and one-month data verification. However, Reliance does not have separate upstream links for Madhya Pradesh & Chhatisgarh Circle as their ISP Gateway is at Mumbai, Delhi & Chennai.

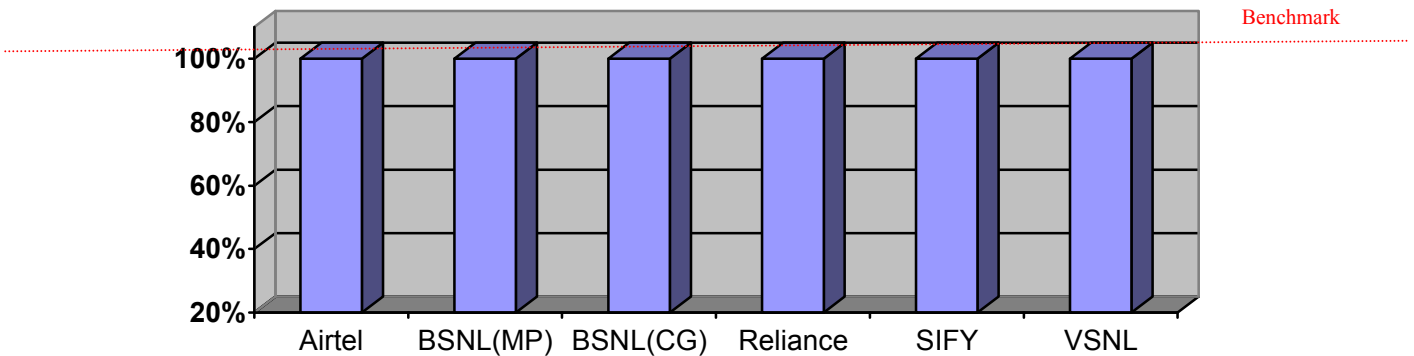
The Satellite link does not exist with any of the operator, hence the parameter “User reference point at ISP Gateway Node to International nearest NAP port abroad (Satellite)” is not applicable to all the operators.

7.3.3 Parameter wise Data Analysis & Graphical Representations – Broadband Service

1.0 Service Provisioning /Activation Time: (Should be 100%)

All the operators comply with the TRAI benchmark of 100%.

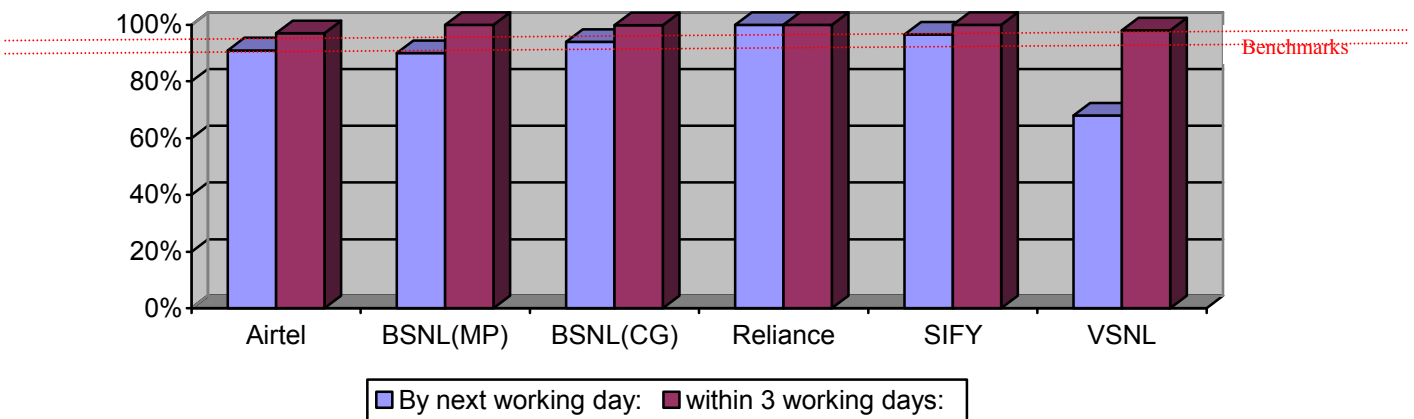
Service Provisioning/Activation Time



2.0 Fault Repair / Restoration Time:

- **By next working day (>90%):** All the operators comply with the TRAI benchmark of 90%.
- **Within 3 working days (>99%):** All the operators comply with the TRAI benchmark except for Airtel showing marginal deviation.
- **Rebate:** All the operators are giving rebate to the eligible customers.

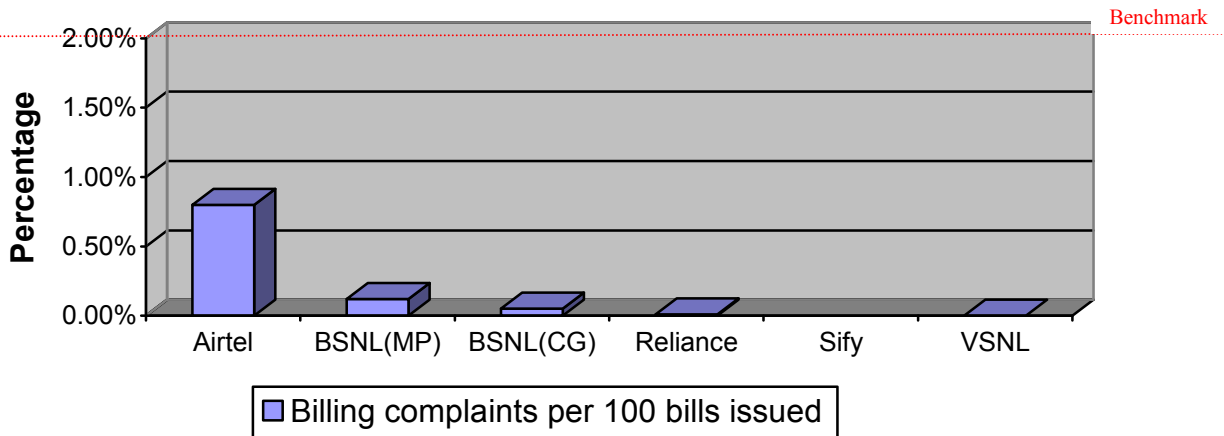
Fault Repair/ Restoration Time



3.0 Billing Performance: (Benchmark <2%)

All the operators comply with the TRAI standards, Except Sify which has only prepaid module.

Billing Performance

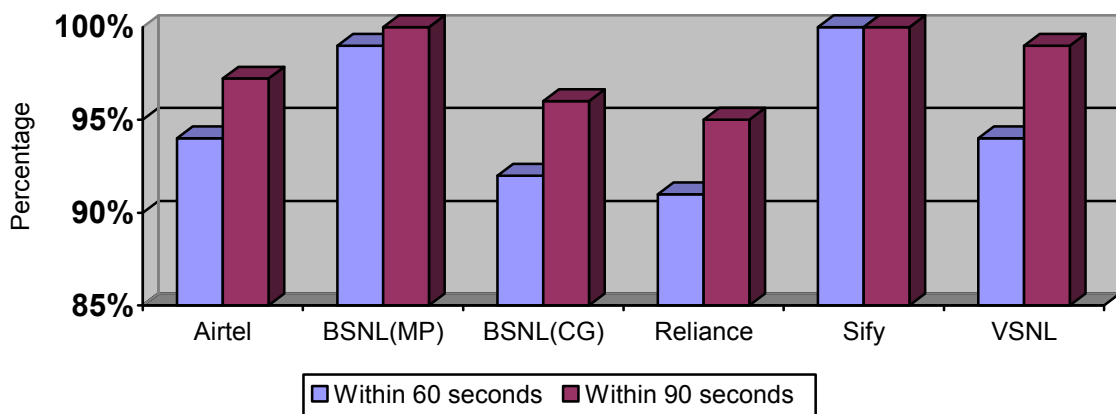


4.0 Response time to the customer for assistance:

% age of calls answered by operator (Voice to Voice)

- **Within 60 seconds (>60%):** All the operators meet the benchmark.
- **Within 90 seconds (>80%):** All the operators meet the benchmark.

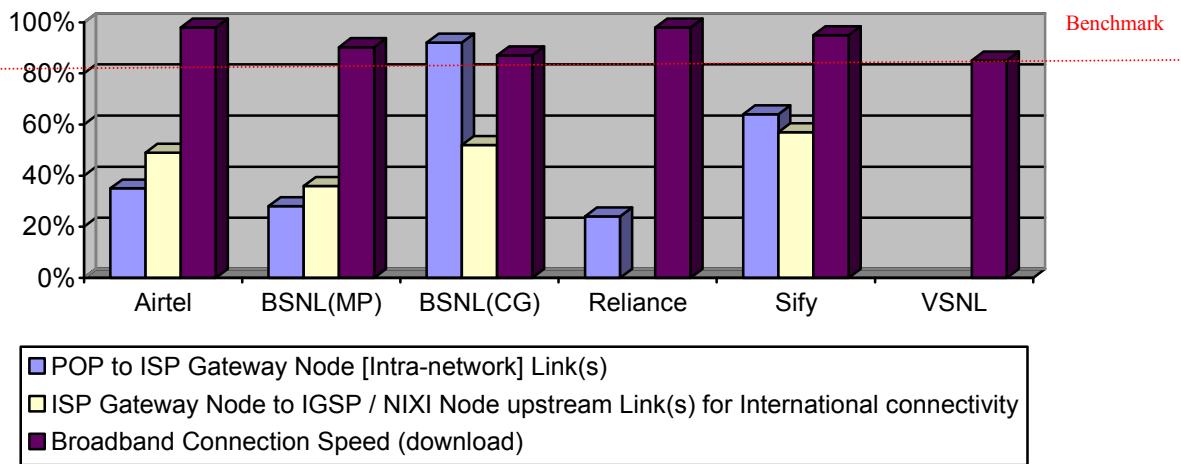
Response Time to the Customer for Assistance



5.0 Bandwidth Utilization/ Throughput:

- POP to ISP Gateway Node [Intra-network] Link(s): (Benchmark <80%): All the operators meet the benchmark.
- ISP Gateway Node to IGSP / NIXI Node upstream Link(s) for International connectivity: (Benchmark <80%): All the operators meet the benchmark.
- Broadband Connection Speed (download) (>80%): All the operators meet the benchmark.

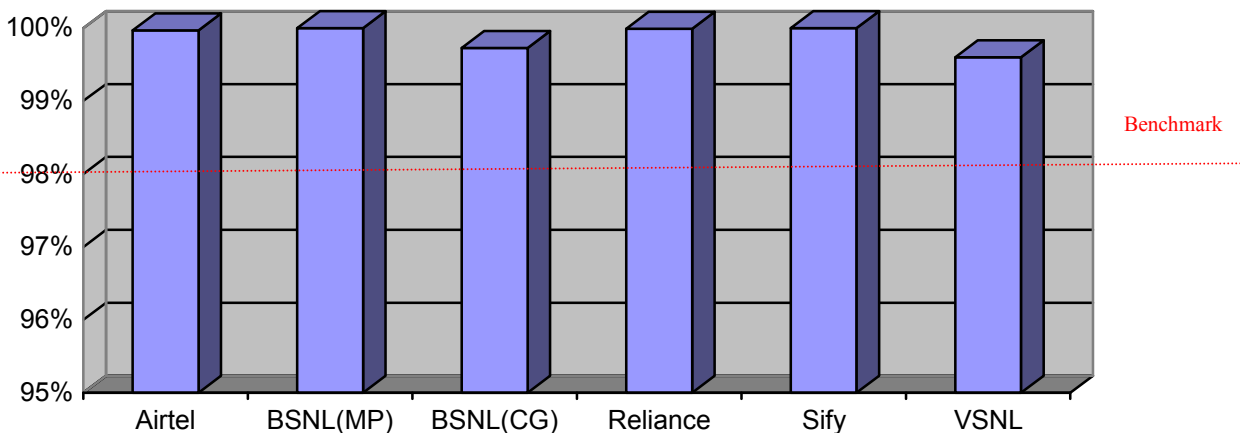
Bandwidth Utilisation



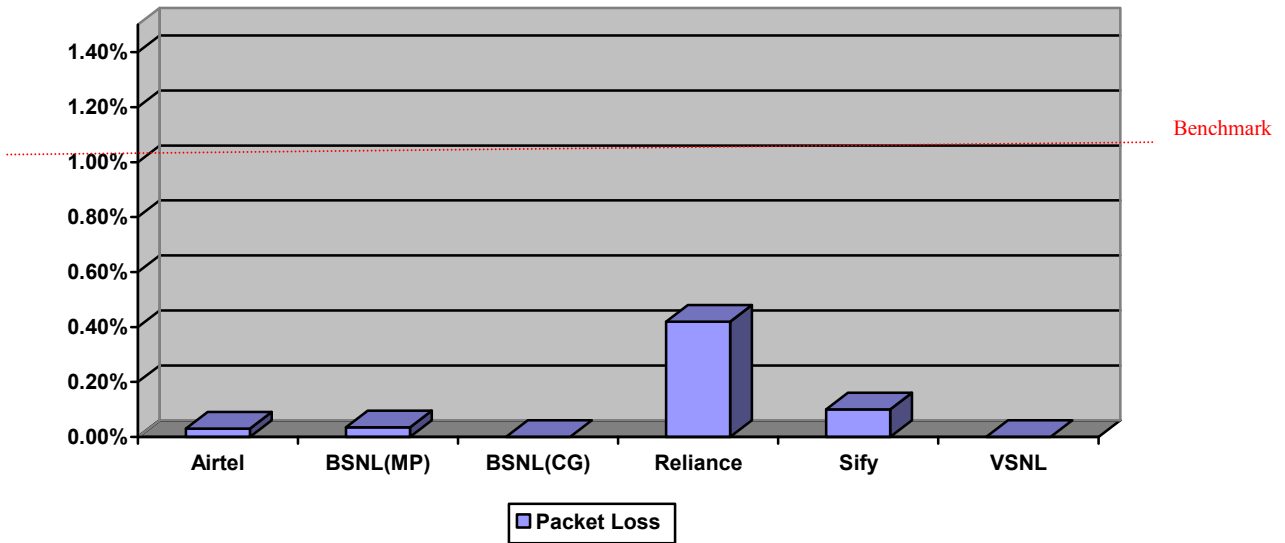
6.0 Service Availability / Uptime (for all users) (better than 98%):

All the operators comply with the TRAI standards of >98%.

Service Availability/ Uptime



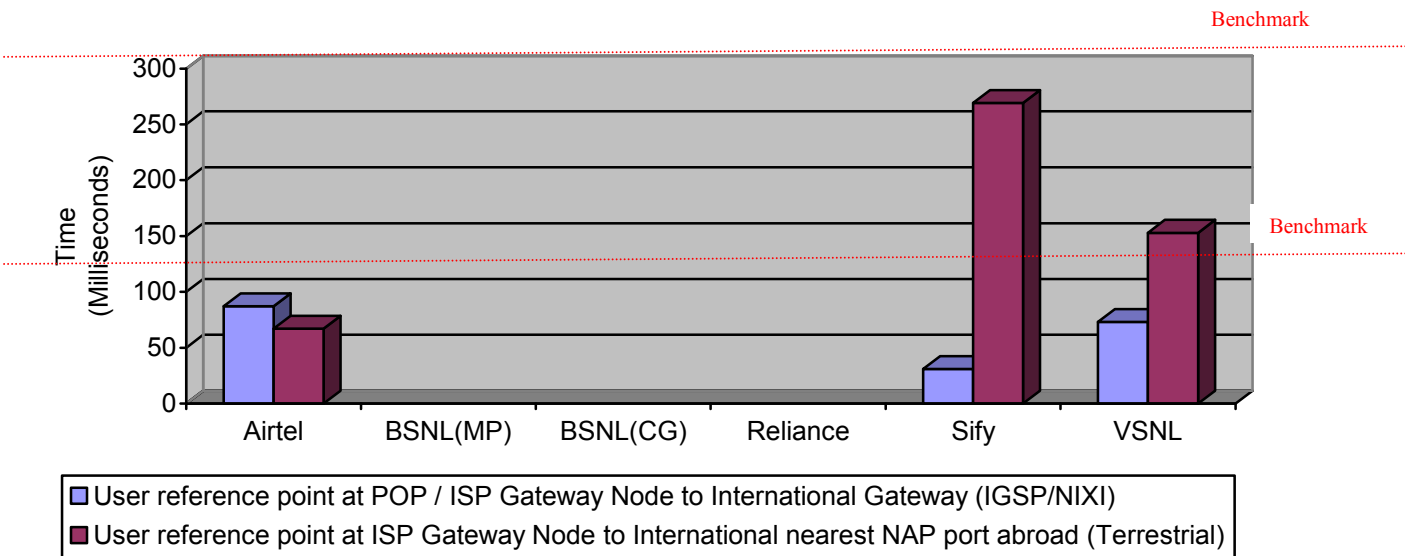
7.0 Packet Loss (Should be less than 1%) : All the operators comply with the TRAI benchmarks



8.0 Network Latency:

- User reference point at POP / ISP Gateway Node to International Gateway (IGSP/NIXI): (Benchmark <120ms): All the operators meet the benchmark.
- User reference point at ISP Gateway Node to International nearest NAP port abroad (Terrestrial): (Benchmark <350ms): All the operators meet the benchmark.
- User reference point at ISP Gateway Node to International nearest NAP port abroad (Satellite): Link does not exist for the operators. Hence, Not applicable.

Network Latency



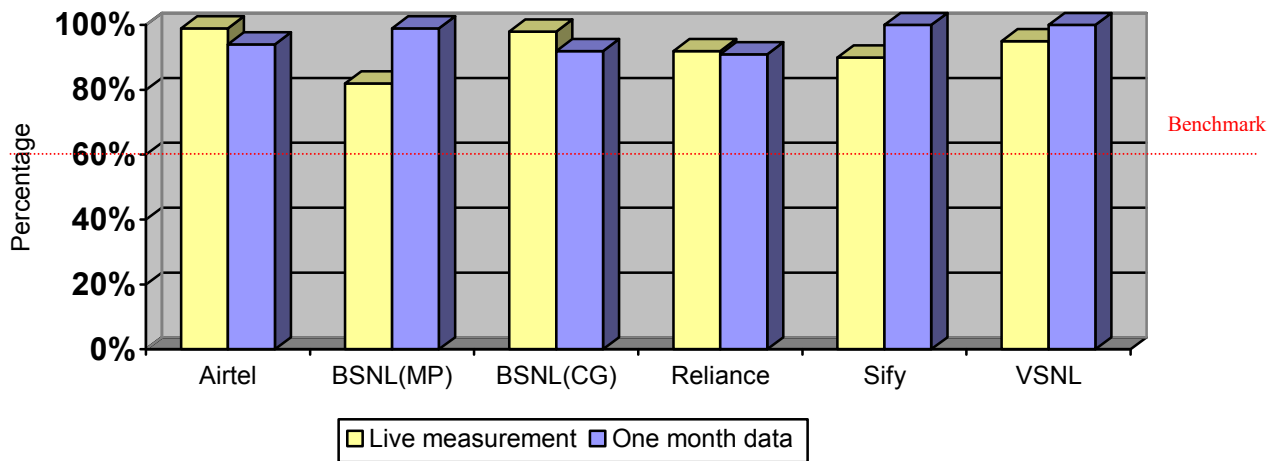
7.3.4 Comparison between Live measurements and One month data Audit – Broadband Service

1. Response time to the customer for assistance (Voice to Voice):

(i) Calls answered by operator within 60 seconds (>60%)

All the operators meet the benchmark.

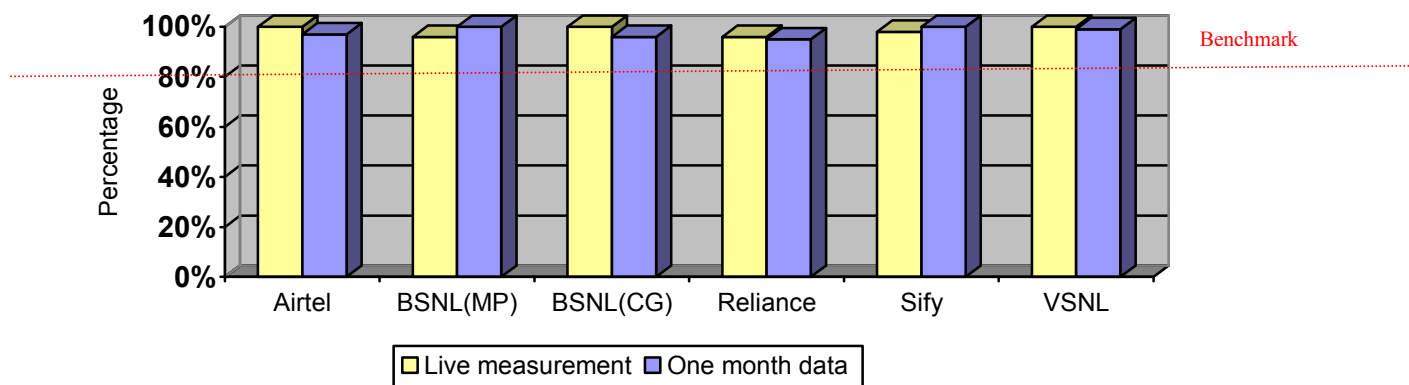
Response Time to the Customer for Assistance



(ii) Calls answered by operator within 90 seconds (>80%)

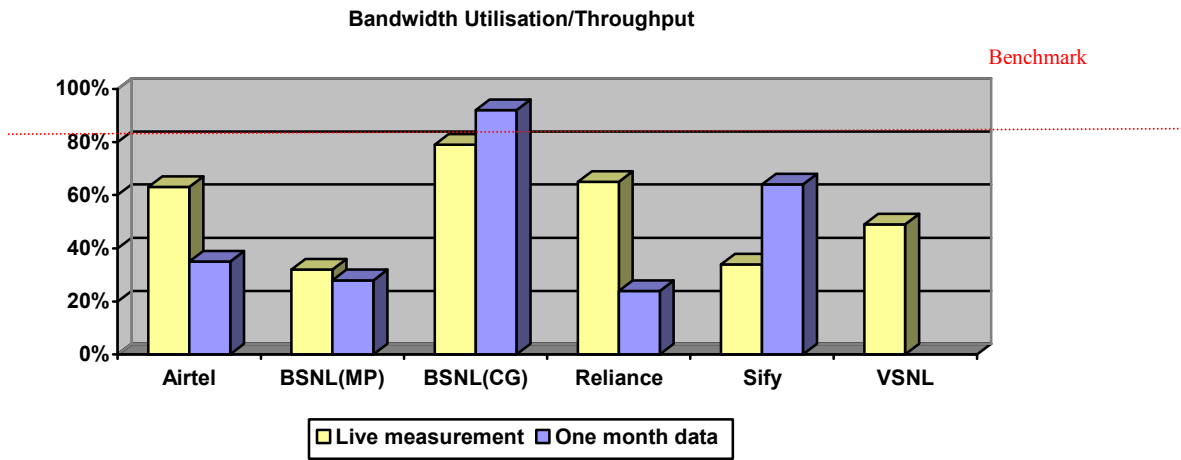
All the operators meet the benchmark.

Response Time to the Customer for Assistance

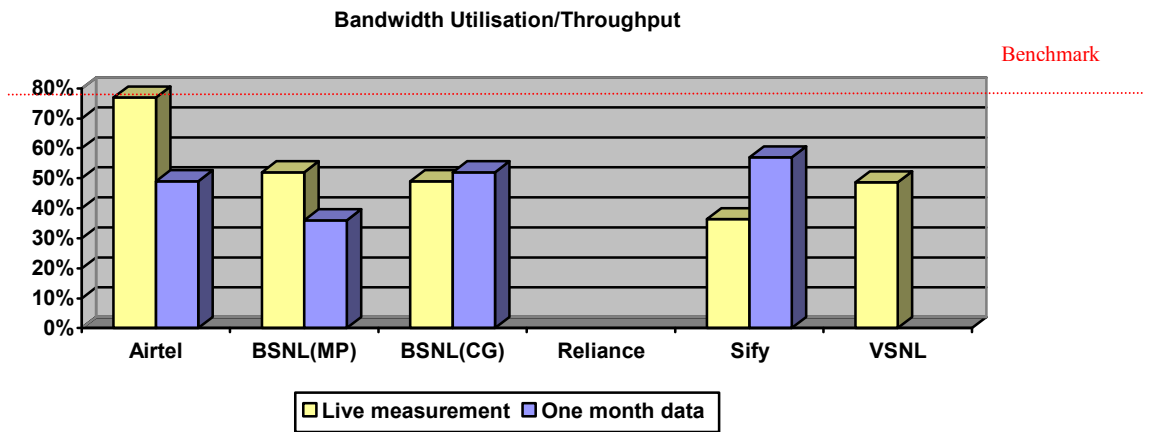


2. Bandwidth Utilization/ Throughput:

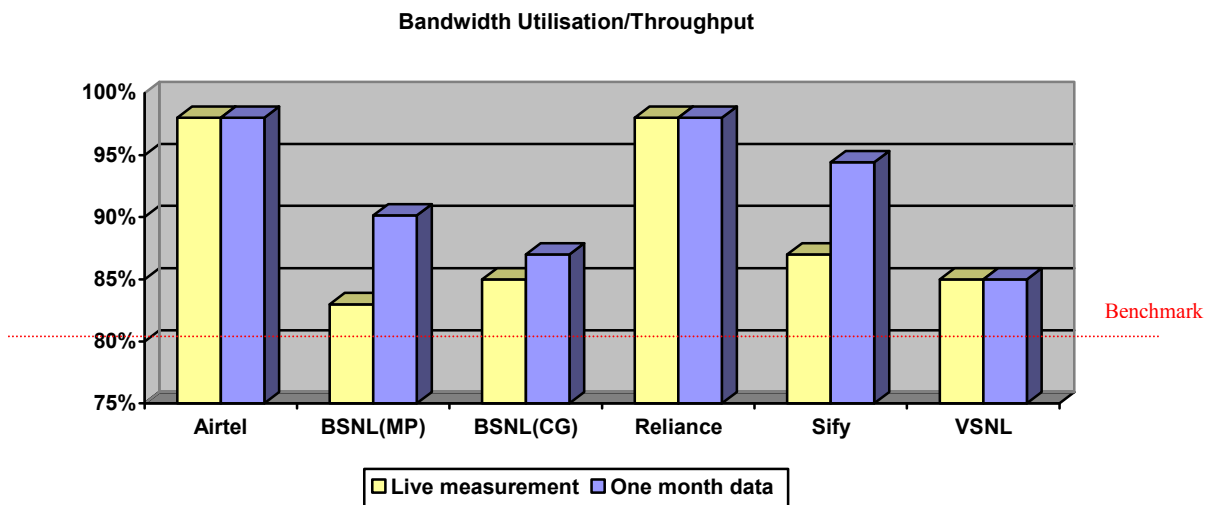
- POP to ISP Gateway Node [Intra-network] Link(s) (<80%): All the operators meet the benchmark.



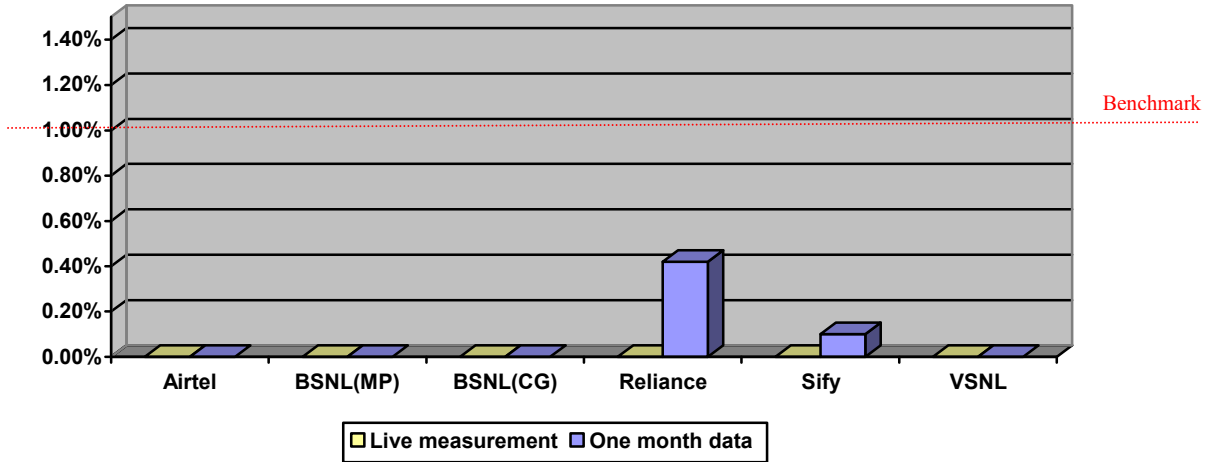
- ISP Gateway Node to IGSP / NIXI Node upstream Link(s) for International connectivity (Should be less than 80%): All the operators meet the benchmark, however, it is not applicable for Reliance.



- Broadband Connection Speed (download) (>80%):** All the operators meet the benchmark.

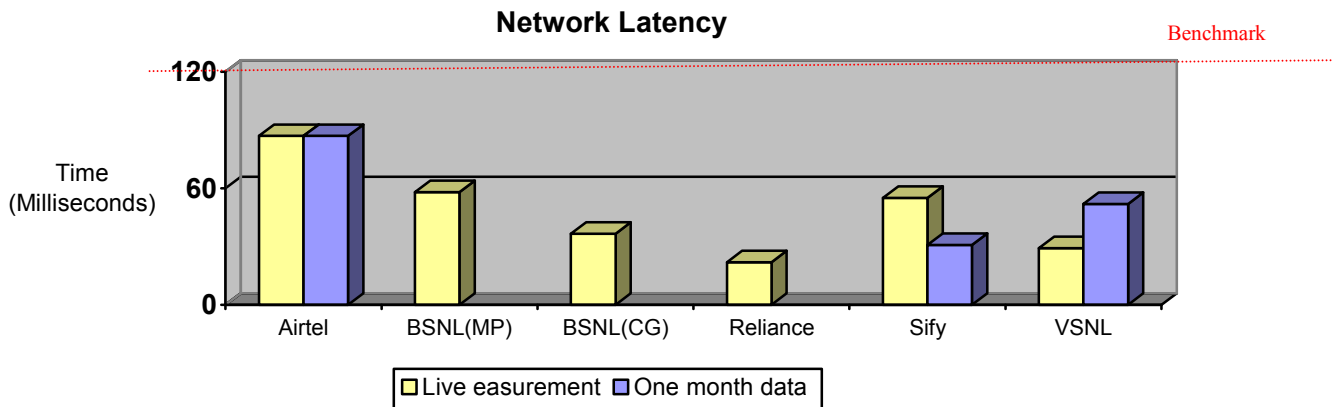


3. **Packet Loss: (Benchmark <1%):** All the operators meet the benchmark in one month and 3 days comparison data.

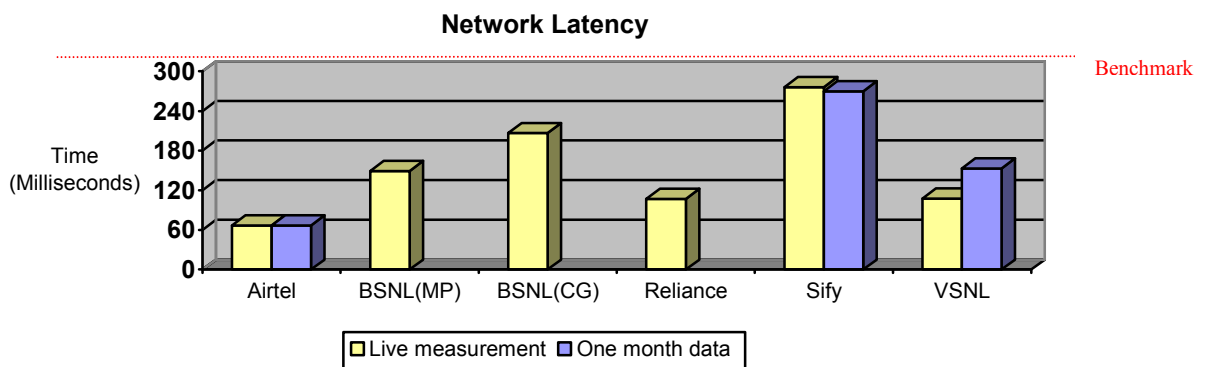


4. **Network Latency:**

- User reference point at POP / ISP Gateway Node to International Gateway (IGSP/NIXI): (Benchmark <120ms): All the operators meet the benchmark.



- User reference point at ISP Gateway Node to International nearest NAP port abroad (Terrestrial): (Benchmark <350ms): All the operators meet the benchmark.



CHAPTER – 8

DRIVE TEST FINDING

2.2 Drive Test Procedure :

TCIL have conducted individual drive test for each operator. TCIL auditors have selected 3 types of clutter in city on the basis of population & clutter. The clutters are dense population, medium population & low population. Auditors have covered more than 100 Kms in each city.

During the drive test, auditors have taken short calls of 120 second call duration & 10 second wait time after each call & covered all routes in selected clutters. At the drive test moment, vehicle speed was maintained within 20- 30 km/hr.

For GSM operators, auditors have taken Rx quality (Bit Error Rate) & in case of CDMA operators, FER (Frame Error Rate) has been taken. The range of Rx quality is scaled between 0-5 for system using frequency hopping & between 0-4 for system using without frequency hopping.

2.3 Drive Test Data Analysis (Operator assisted Drive Test)

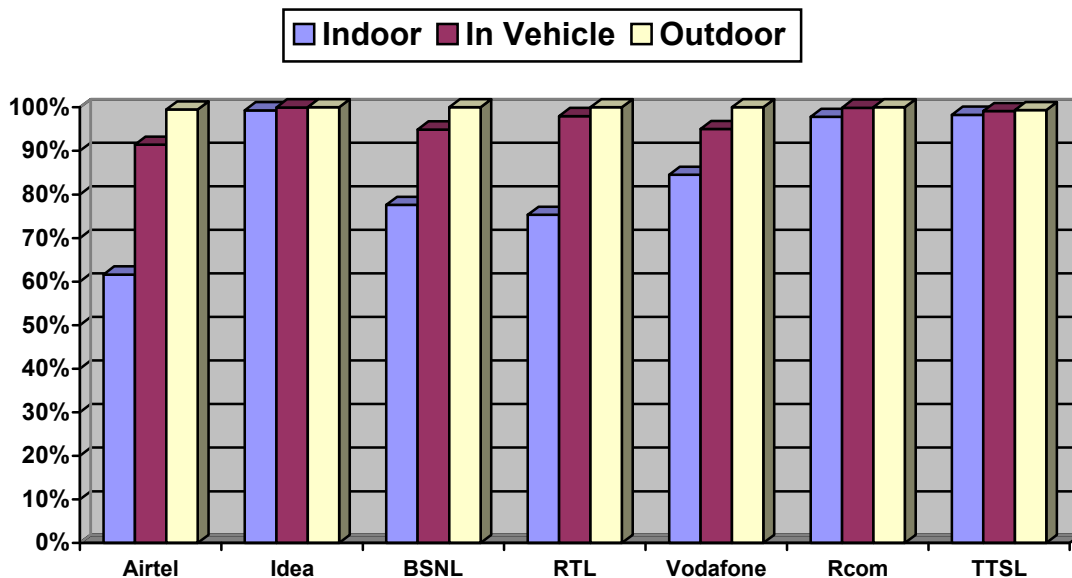
2.3.1 BHOPAL

S.N.	Parameters	Airtel	IDEA	BSNL	RTL	Vodafone	RCom.	TTSL
1	Drive Test							
1.1	Call Attempts	221	159	198	182	184	148	187
1.2	Blocked Call Rate (<=3%)	1.3%	0.63%	4.04%	1.09%	1.09%	0%	0%
1.3	Dropped Call Rate (<=2%)	3.6%	1.89%	2.1%	1.1%	1.63%	0%	0%
1.4	Percentage of connections with good voice quality (=>95%)							
	(i) 0-4 (w/o frequency hopping)						98.12%	98.4%
	(ii) 0-5 (with frequency hopping)	86.8%	93.66%	96.4%	90.05%	96.19%		
1.5	Service Coverage							
	In door (>= -75dBm)	61.6%	99.32%	77.6%	75.3%	84.5%	97.8%	98.3%
	In-vehicle (>= -85dBm)	91.4%	99.98%	94.9%	98%	95%	99.9%	99.13%
	Out door- in city (>= -95dBm)	99.5%	100%	100%	100%	100%	100%	99.35%
1.6	Call Setup Success Rate (>=95%)	95%	98.74%	96.1%	99.3%	97.28%	100%	100%

Indicates deviation from benchmark of TRAI.

NA – Not Applicable.

Service Coverage levels for all the operators in Bhopal: Operator assisted drive test result.



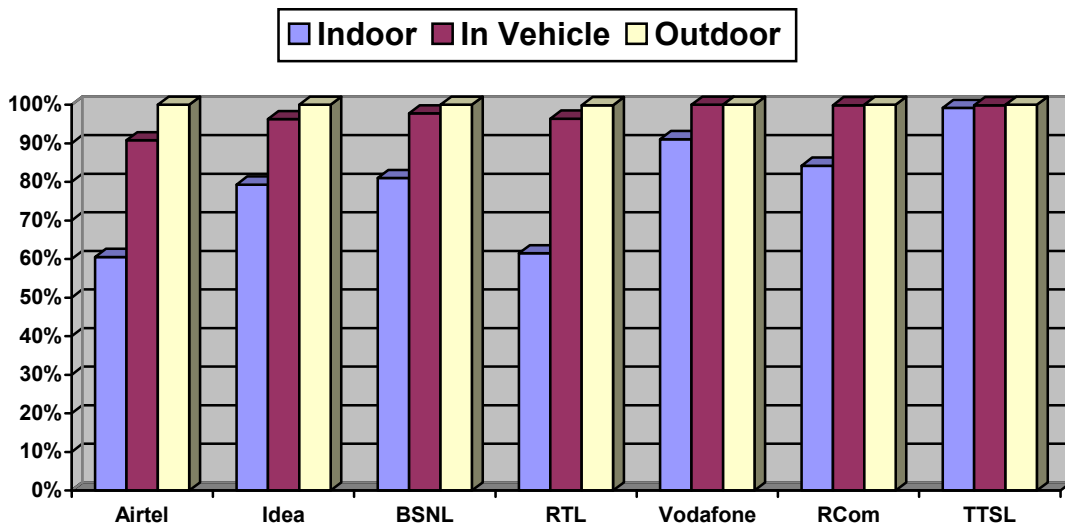
2.3.2 INDORE

S.N.	Parameters	Airtel	IDEA	BSNL	RTL	Vodafone	RCom.	TTSL
1	Drive Test							
1.1	Call Attempts	162	113	114	144	117	115	144
1.2	Blocked Call Rate (<=3%)	1.2%	0%	0.87%	0.69%	1.71%	0%	0%
1.3	Dropped Call Rate (<=2%)	3.7%	0.88%	1.75%	0.69%	1.71%	0%	0%
1.4	Percentage of connections with good voice quality (>=95%)							
	(i) 0-4 (w/o frequency hopping)						97.9%	98.15
	(ii) 0-5 (with frequency hopping)	76.46%	95.23%	95.5%	88.9%	94.01%		
1.5	Service Coverage							
	In door (>= -75dBm)	60.54%	79.3%	81%	61.5%	91.1%	84.2%	99.2%
	In-vehicle (>= -85dBm)	90.8%	96.3%	97.8%	96.4%	100%	99.9%	99.9%
	Out door- in city (>= -95dBm)	100%	100%	100%	99.9%	100%	100%	100%
1.6	Call Setup Success Rate (>=95%)	95%	100%	97.37%	98.3%	96.58%	100%	100%

Indicates deviation from benchmark of TRAI.

NA – Not Applicable.

Service Coverage levels for all the operators in Indore: Operator assisted drive test result.



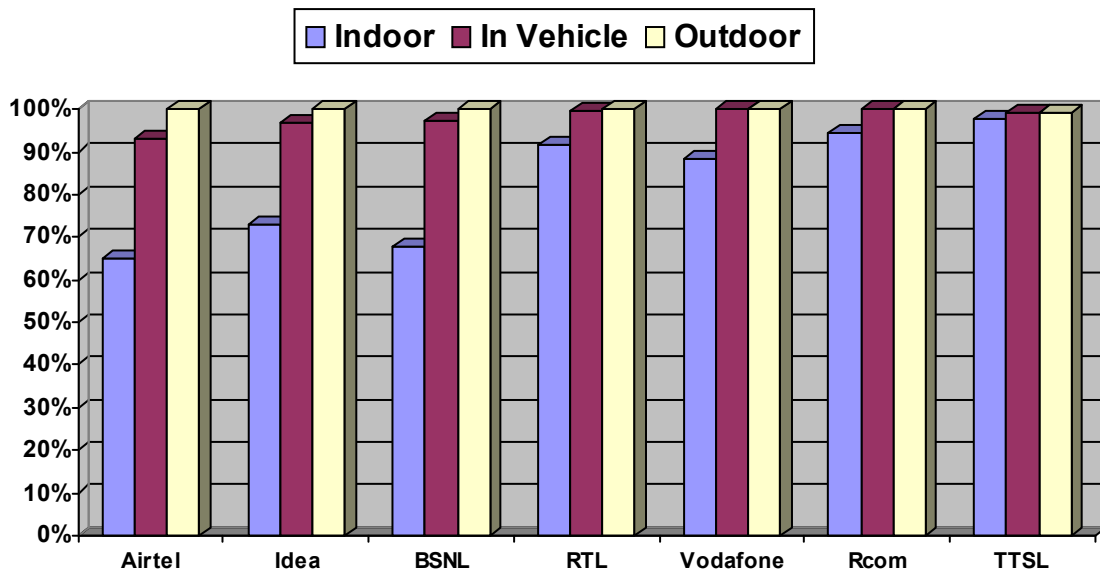
2.3.3 RAIPUR

S.N.	Parameters	Airtel	IDEA	BSNL	RTL	Vodafone	RCom.	TTSL
1	Drive Test							
1.1	Call Attempts	248	183	192	197	176	230	150
1.2	Blocked Call Rate (<=3%)	1.2%	0%	3.6%	3.04%	0.56%	0%	0%
1.3	Dropped Call Rate (<=2%)	1.6%	0.55%	2.7%	3.14%	1.44%	0%	0%
1.4	Percentage of connections with good voice quality (>=95%)							
	(i) 0-4 (w/o frequency hopping)						97.15%	98.19%
	(ii) 0-5 (with frequency hopping)	84.41%	94.7%	84.7%	93.93%	95%		
1,5	Service Coverage							
	In door (>= -75dBm)	64.86%	72.94%	67.9%	91.5%	88.4%	94.5%	97.7%
	In-vehicle (>= -85dBm)	92.99%	96.63%	97.1%	99.7%	100%	100%	99.10%
	Out door- in city (>= -95dBm)	100%	99.98%	99.9%	100%	100%	100%	99.18%
1.6	Call Setup Success Rate (>=95%)	97%	99.45%	93.22%	96.9%	98.86%	100%	100%

Indicates deviation from benchmark of TRAI.

NA – Not Applicable.

Service Coverage levels for all the operators in Raipur: Operator assisted drive test result.



Observation:

The Operator Assisted Drive Test was conducted at Bhopal, Indore and Raipur cities for all the operators. The operator wise observations based on drive test are as follows:

Airtel

Airtel is meeting most of the benchmarks in all the three cities (Bhopal, Indore & Raipur). However, Airtel is deviating in the '%age of connections with good voice quality in all the 3 cities. In addition Airtel also deviates in 'Dropped Call Rate' values for 2 cities namely Bhopal (3.6%) and Indore (3.7%). Also to be noted that for 'Call Set up Success Rate' parameter in Bhopal and Indore city Idea is just meeting the benchmark of 95%.

Idea

Idea is meeting all the benchmarks in all the three cities except for '%age of connections with good voice quality' parameter in Bhopal (93.66%) & Raipur(94.7%) city.

BSNL

BSNL is meeting quite a few numbers of benchmarks in three cities (Bhopal, Indore & Raipur). However, BSNL has shown deviation in 'Blocked Call Rate' and 'Dropped Call Rates' in Bhopal and Raipur cities. However in Raipur city BSNL fails to meet the benchmark for 'percentage of connections with good voice quality' (84.7%) and 'Call Setup Success Rate' (93.22%).

Reliance Telecom (RTL)

Reliance has shown deviation in the benchmarks for '%age of connections with good voice quality' in all the 3 cities. For parameters like 'Blocked Call Rate' (3.04%) and 'Dropped Call Rate' (3.14%) RTL is not meeting the benchmark in Raipur city.

Vodafone

Vodafone qualifies for all the parameters in Bhopal drive test. Only call drop is found to be at little higher range but well under the benchmark. But in Indore % of good voice quality (94.01%) just misses the benchmark while in Raipur it's just on the benchmark of 95%.

Reliance Communication (RCOM)

Reliance Comm. is meeting all the benchmarks in all the three cities (Bhopal, Indore & Raipur).

TTSL

TTSL is meeting all the benchmarks in all the three cities (Bhopal, Indore and Raipur).

8.3 Drive Test Data Analysis (Independent Drive Test)

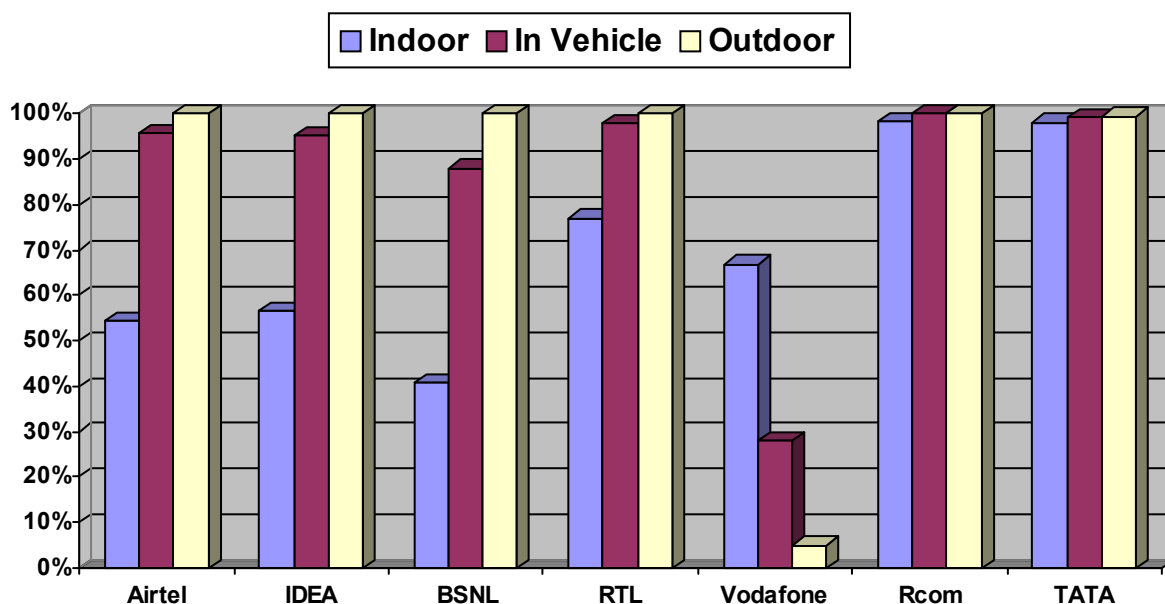
8.3.1 BHOPAL

S.N.	Parameters	Airtel	IDEA	BSNL	RTL	Vodafone	RCOM	TATA
1	Drive Test							
1.1	Call Attempts	186	170	189	164	120	156	156
1.2	Blocked Call Rate (<= 3%)	0.34%	0%	3.3%	0%	1.67%	0%	0%
1.3	Dropped Call Rate (<= 2%)	6.3%	1.16%	4.1%	0%	0.85%	0%	0%
1.4	Percentage of connections with good voice quality (>= 95%)							
	(i) 0-4 (w/o frequency hopping)						97.5%	98.09%
	(ii) 0-5 (with frequency hopping)	86.5%	94.32%	91.5%	91.65%	95%		
1.5	Service Coverage							
	In door (>= -75dBm)	54.4%	56.5%	40.7%	77%	67%	98.44%	98.18%
	In-vehicle (>= -85dBm)	95.7%	95.2%	88%	98%	95%	100%	99.23%
	Out door- in city (>= -95dBm)	100%	100%	100%	100%	5%	100%	99.39%
1.6	Call Setup Success Rate (>=95%)	99.66%	100%	96.22%	100%	97.5%	100%	100%

Indicates deviation from benchmark of TRAI.

NA – Not Applicable.

Service Coverage levels for all the operators in Bhopal: Independent drive test result.



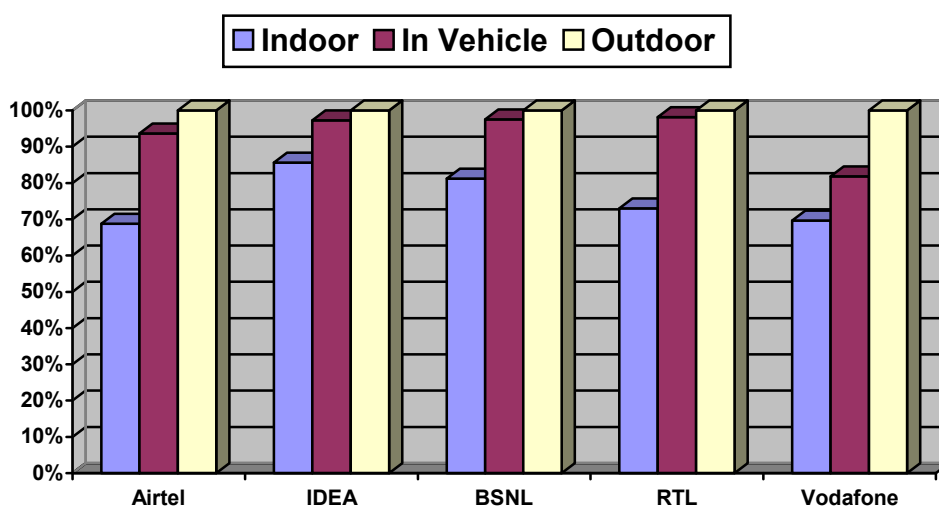
8.3.2 INDORE

S.N.	Parameters	Airtel	IDEA	BSNL	RTL	Vodafone
1	Drive Test					
1.1	Call Attempts	135	120	117	131	123
1.2	Blocked Call Rate (<= 3%)	0.45%	0%	2.56%	1.06%	2.42%
1.3	Dropped Call Rate (<= 2%)	3.48%	1.25%	1.70%	0.58%	1.21%
1.4	Percentage of connections with good voice quality (>= 95%)					
	(i) 0-4 (w/o frequency hopping)					
	(ii) 0-5 (with frequency hopping)	87.97%	95.73%	95.73%	90.37%	95.86%
1.5	Service Coverage					
	In door (>= -75dBm)	68.73%	85.60%	81.16%	73.03%	69.66%
	In-vehicle (>= -85dBm)	93.66%	97.30%	97.56%	98.14%	81.86%
	Out door- in city (>= -95dBm)	100%	100%	100%	99.99%	100%
1.6	Call Setup Success Rate (>=95%)	99.54%	100%	98.29%	98.45%	98.12%

Indicates deviation from benchmark of TRAI.

NA – Not Applicable.

Service Coverage levels for all the operators in Indore: Independent drive test result.



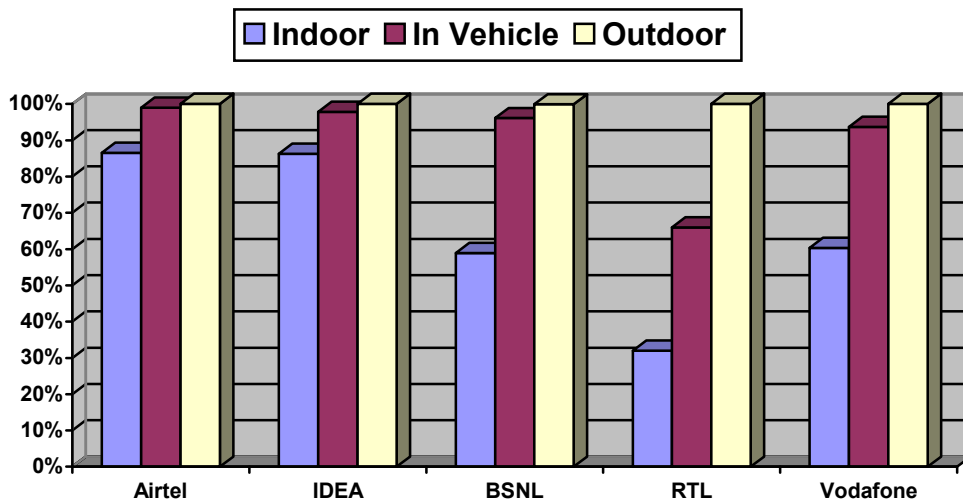
8.3.3 RAIPUR

S.N.	Parameters	Airtel	IDEA	BSNL	RTL	Vodafone
1	Drive Test					
1.1	Call Attempts	127	131	151	104	144
1.2	Blocked Call Rate (<= 3%)	1.57%	0.76%	10.6%	0.96%	1.4%
1.3	Dropped Call Rate (<= 2%)	2.36%	5.34%	8.61%	4.81%	0.69%
1.4	Percentage of connections with good voice quality (>= 95%)					
	(i) 0-4 (w/o frequency hopping)					
	(ii) 0-5 (with frequency hopping)	90%	92.8%	77.2%	94.84%	93.9%
1,5	Service Coverage					
	In door (>= -75dBm)	86.5%	86.3%	58.9%	32.01%	60.3%
	In-vehicle (>= -85dBm)	99%	97.8%	96.1%	65.95%	93.7%
	Out door- in city (>= -95dBm)	100%	100%	99.9%	100%	100%
1.6	Call Setup Success Rate (>95%)	98.43%	99.24%	89.4%	99.04%	98.6%

Indicates deviation from benchmark of TRAI.

NA – Not Applicable.

Service Coverage levels for all the operators in Raipur: Independent drive test result.



Observation:

The Independent Drive Test was conducted at Bhopal, Indore and Raipur cities. The operator wise observations based on drive test are as follows:

Airtel

Airtel is meeting all the benchmarks except 'Dropped call rate' and '%connections with good voice quality' for all the 3 cities with values being 6.3%, 3.48% and 2.36% for Dropped call rate and 86.5%, 87.9% and 90% for connections with good voice quality for respective cities of Bhopal, Indore and Raipur.

Idea

Idea is meeting all the benchmarks except for connections with good voice quality (94.32%) in Bhopal and 92.8% for Raipur. In addition to this Dropped Call rate in Raipur also fails to meet the benchmark, showing a value of 5.34%.

BSNL

BSNL is not meeting the benchmarks for most of the parameters except in Indore city BSNL, performance is good, satisfying all the benchmark.

Reliance Telecom

Reliance is deviating in benchmarks for the parameter %age of connections with good voice quality in all the 3 cities and in Indore deviation is seen in drop call rate (4.8%). Rest of the parameters are meeting the benchmark.

Vodafone

Except for '%age of connections with good voice quality' in Raipur (93.9%) all other benchmark are meeting.

RComm.

RComm. is meeting all the benchmark for Bhopal.

TATA

TATA is meeting all the benchmark for Bhopal.

CHAPTER – 9**POI CONGESTION: VOICE CALL TEST****9.1 INTER OPERATOR CALL CONGESTION ASSESSMENT****9.1.1 Summary of Successful Calls**

Calling Operator	Called Operator					
	Idea	BSNL	Airtel	Reliance Telecom	Reliance Comm.	TTSL
Idea	-	100%	100%	100%	100%	100%
BSNL	100%	-	100%	100%	100%	100%
Airtel	100%	100%	-	100%	100%	100%
Reliance Telecom	100%	100%	100%	-	100%	100%
Reliance Comm.	100%	100%	100%	100%	-	100%
TTSL	100%	100%	100%	100%	100%	-

9.1.2 Detailed Records

A sample of 2x50 test calls per Service Providers with in the licensed service area (Madhya Pradesh & Chhatisgarh Circle) were made between 1100 to 1400 hrs and between 1600 to 1900 hrs.

S. No	Calling Number Operator	Called operator	Total no of calls	Total no of Successful calls	Call Success %	
1	Idea	BSNL,	50	50	100%	
		Tata	50	50	100%	
		Airtel	50	50	100%	
		RCOM	50	50	100%	
		RTL	50	50	100%	
		BSNL	50	50	100%	
		Tata	50	50	100%	
		Airtel	50	50	100%	
		RCOM	50	50	100%	
2	BSNL	Tata	50	50	100%	
		RCOM	50	50	100%	
		Idea	50	50	100%	
		Airtel	50	50	100%	
		RTL	50	50	100%	
		TATA	50	50	100%	
		RCOM	50	50	100%	
		Idea	50	50	100%	
		Airtel	50	50	100%	
RTL	50	50	100%			

S. No	Calling Number Operator	Called operator	Total no of calls	Total no of Successful calls	Call Success %
3	Airtel	Idea	50	50	100%
		BSNL	50	50	100%
		Tata	50	50	100%
		RCOM	50	50	100%
		RTL	50	50	100%
		Idea	50	50	100%
		BSNL	50	50	100%
		Tata	50	50	100%
		RCOM	50	50	100%
		RTL	50	50	100%
4	Reliance Telecom				
		Idea	50	50	100%
		BSNL	50	50	100%
		Tata	50	50	100%
		RCOM	50	50	100%
		Airtel	50	50	100%
		Idea	50	50	100%
		BSNL	50	50	100%
		Tata	50	50	100%
		RCOM	50	50	100%
		Airtel	50	50	100%
5	Reliance Comm.	Idea	50	50	100%
		BSNL	50	50	100%
		Tata	50	50	100%
		RTL	50	50	100%
		Airtel	50	50	100%
		Idea	50	50	100%
		Vodafone	50	50	100%
		Tata	50	50	100%
		RTL	50	50	100%
		Airtel	50	50	100%
6	TTSL	Idea	50	50	100%
		Vodafone	50	50	100%
		RCOM	50	50	100%
		RTL	50	50	100%
		Airtel	50	50	100%
		Idea	50	50	100%
		Vodafone	50	50	100%
		RCOM	50	50	100%
		RTL	50	50	100%
		Airtel	50	50	100%

CHAPTER – 10**CUSTOMER CARE & GRIEVANCES REDRESSAL****10.1 Basic Service (Wireline)**

S.N.	Parameters	Airtel	BSNL(MP)	BSNL(CG)	Reliance Comm.
1	Parameters				
1.1	Complaints per 100 bills issued	0.79%	0.03%	0.13%	0.05%
1.2	Percentage of billing complaints resolved within 4 weeks	100%	98.7%	97%	100%
1.3	Response time to customer for assistance: % of calls answered by operator within 60 seconds	98%	99%	100%	92%
2	Call Centre				
2.1	Total no of complaints received in the call centre	46523	1652	1221	6846
2.2	Complaints per 100 customers per months	17%	0.10%	0.55%	1.29%
2.3	Total no of complaints redressed by the call centre within the specified time limit	28988	1108		6504
3	Nodal Officer				
3.1	Total no of complaints received by the nodal officers	45	179	23	3
3.2	Percentage of complaints with reference to total no of complaints received at the call centre	0.08%	10.8%	1.88%	0.04%
3.3	Total no of complaints redressed within the specified time limit	43	0	0	3
4	Appellate Authority				
4.1	Total no of appeals received by the appellate authority	1	179	0	0
4.2	Percentage of appeal received with reference to total no of complaints received by the nodal officers	2.33%	0	0	0
4.3	Total no of appeals decided within 3 months	1	0	0	0

Note :

It is found that there are many instances where customers directly approach to Nodal Officer without approaching to Call Center for redressal. Similarly there are many instances where customers directly approach to Appellate Authority without approaching to Nodal Officer for their grievances redressal.

10.2 Cellular Mobile Telephone Services

S.N.	Parameters	Airtel	BSNL (MP)	BSNL (CG)	Vodafone	Idea	Reliance Telecom	TTSL	Reliance Comm.
A	Call Centre Statistics								
1	Total no of complaints received in the call centre	2705	6334	4829	3382	14315	1033	14722	1224
2	Complaints per 100 customers per months	0.96%	0.363%	0.62%	1.03%	0.25%	0.14%	0.89%	0.10%
3	Total no of complaints redressed by the call centre within the specified time limit	2289	6313	4829	3382	14305	1019	14667	1184
B	Nodal Officer								
1	Total no of complaints received by the nodal officers	416	21	0	0	10	14	55	40
2	Percentage of complaints with reference to total no of complaints received at the call centre	15.38%	0.33%	0%	0%	.07%	0.0%	0.37%	1%
3	Total no of complaints redressed within the specified time limit	100%	100%	0%	0%	100%	14	55	38
4	Total no of refund/payment within 7 days from the date of resolution of complaints in POST PAID	< 1 Week	< 1 Week	> 1 Week	< 1 Week	< 1 Week	< 1 Week	< 1 Week	< 1 Week
5	Total no of refund/payment within 7 days from the date of resolution of complaints in PRE PAID	< 1 Week	< 1 Week	< 1 Week	< 1 Week	< 1 Week	< 1 Week	< 1 Week	< 1 Week
C	Appellate Authority								
1	Total no of appeals received by the appellate authority	0	0	0	0	0	0	0	2
2	Percentage of appeal received with reference to total no of complaints received by the nodal officers	0%	0%	0%	0%	0%	0%	0%	5%
3	Total no of appeals decided within 3 months	0	0	0	0	0	0	0	2
D	Refund of deposits after termination of service within 60 days	32.9%	100%	100%	NP	85.9%	Nil	100%	100%

Note:

It is found that there are many instances where customers directly approach to Nodal Officer without approaching to Call Center for redressal. Similarly there are many instances where customers directly approach to Appellate Authority without approaching to Nodal Officer for their grievances redressal.

10.3 Broadband Services

S.N.	Parameters	Airtel	BSNL (MP)	BSNL (CG)	Sify	Reliance Comm.	VSNL
1	Parameters						
1.1	Complaints per 100 bills issued	0.80%	0.60%	0.05%	Not Applicable	0.2%	0.44%
1.2	Percentage of billing complaints resolved within 4 weeks	100%	100%	100%		100%	100%
1.3	Response time to customer for assistance: % of calls answered by operator within 90 seconds	94%%	98%	96%	Not Applicable	94.06%	100%
2	Call Centre						
2.1	Total no of complaints received in the call centre	11361	335	1690	29	7546	337
2.2	Complaints per 100 customers per months	11%	0.138%	5.12%	3%	2.62%	62.52%
2.3	Total no of complaints redressed by the call centre within the specified time limit	7837	33	1609	29	8696	334
3	Nodal Officer						
3.1	Total no of complaints received by the nodal officers	0	3505	15	0	6	3
3.2	Percentage of complaints with reference to total no of complaints received at the call centre	0	9.50%	0.89%	0%	0.06%	0.89%
3.3	Total no of complaints redressed within the specified time limit	0	0	15	0	6	3
4	Appellate Authority						
4.1	Total no of appeals received by the appellate authority	0	0	1	0	0	0
4.2	Percentage of appeal received with reference to total no of complaints received by the nodal officers	0	0	6.67%	0%	0	0
4.3	Total no of appeals decided within 3 months	0	0	1	0	0	0

Note :

It is found that there are many instances where customers directly approach to Nodal Officer without approaching to Call Center for redressal. Similarly there are many instances where customers directly approach to Appellate Authority without approaching to Nodal Officer for their grievances redressal.

ANNEXURE - I

List of Exchanges / Switches

1. BASIC WIRELINE SERVICE:

AIRTEL: Bhopal, Indore, Jabalpur, Gwalior and Raipur

RELAINCE COMM.: Bhopal

BSNL (MP): 130 Exchanges Covering Bhopal, Indore, Ujjain, Hosangabad, Jabalpur, Katni and Gwalior as SSA (Secondary Switching Area) and rest 123 are SDCA (Short Distance Charging Area). To be noted total SDCA in the circle is 240.

BSNL (CG): 30 Exchanges Covering Raipur, Bilaspur and Jagdalpur as SSA (Secondary Switching Area) and rest 27 are SDCA (Short Distance Charging Area). To be noted total SDCA in the circle is 112.

2. BASIC (WIRELESS) AND CELLULAR MOBILE SERVICE:

AIRTEL: Indore MSC, Bhopal GMSC, Bhopal MSC, MSS3, Raipur MSC, MSS7,

IDEA: MSC Bhopal, MSC Raipur, MSC Gwalior, MSC Indore,

TTSL: Bhopal MSC 1, Bhopal MSC 2, Bhopal MSC 3, Raipur MSC

RELAINCE TELECOM: GMSC, HMSC1, HMSC 2, HMSC 3

RELAINCE COMM.: GMSC Bhopal, Bhopal MSC 1, Bhopal MSC 3

BSNL (GSM): MSC Bhopal, MSC Indore, MSC Raipur

3. BROADBAND SERVICE:

AIRTEL: Bhopal

SIFY : Bhopal

BSNL (MP) : Bhopal, Indore

BSNL (CG): Raipur

RELIANCE : Bhopal

TATA COMM (VSNL) : Bhopal, Indore

ANNEXURE - II

DRIVE TEST LOCATIONS

A. BHOPAL

Dense : Barkhedi, Jahangirabad, Ashoka Garden, Kohefija, Idgah hill, Budhwara

Medium Dense 1: MP Nagar, New Market, Shahapura, Mata mandir, Rachana Nagar

Low Dense: Bijli colony, Govindpura, Ayodhya Nagar, Sonagiri

B. INDORE

Dense : Rajwada, Sarafa, M.G.Road, Siyaganj, Jail Road

Medium Dense : Regal, YN Road, RNT Marg, Narayan Kithi, New Palasiya

Low Dense : Vijay Nagar, Scheme no 54, Scheme no 74, Sawer Industrial area

C. RAIPUR

Dense : Katora Talab, Bayron Bazar, Gandhi Chowk, Sadar Market, Rathod Chowk

Medium Dense 1 : Telebandha, civil line Shankar Nagar, Akash Nagar, Anupam Nagar, Paras Nagar

Low Dense : Ring Road, Tatibandh, Saraswati Nagar, Ekta Nagar, Tikra pada