

Information note to the Press
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Telecom Regulatory Authority of India

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TRAI Releases Report of the independent agencies engaged for the Objective Assessment of Quality of Service and Customer Satisfaction Survey of Telecom Services in Maharashtra Service Area (including Goa)

New Delhi, 18th December, 2008 - TRAI engaged M/s. TCIL as independent agencies for conducting an objective assessment of the Quality of Service provided by basic and cellular mobile telephone service providers and broadband service providers and M/s Market Pulse for conducting subjective customer satisfaction surveys for assessing the customers' perception of the service and to assess the implementation and effectiveness of Telecom Consumers Protection and Redressal of Grievances Regulations, 2007.

2. Methodology

2.1 The audit and objective assessment of QoS has been done by M/s. TCIL with the following aspects in view: –

- § the scope of the audit and assessment work included a three stage verification process. The first stage consisted of auditing the records of the service providers and verifying the Performance Monitoring Report (PMR) data submitted to TRAI. The second stage involved three days live measurement of all the network parameters and determination of Busy hour. The third stage consisted of collection and verification of one month Quality of Service performance data.
- § audit of telephone exchanges for basic service, Mobile Switching Centers (MSCs), network operating centre/point of presence for broadband service spread in the service area on sample basis;
- § assessing the network conditions of each cellular mobile service provider through drive tests;
- § inter-operator call assessment of cellular mobile operator through inter-network test calls;
- § assessing the effectiveness of the customer care help lines of each operator through test calls;

2.2 The subjective assessment of customer perception of service and assessment of implementation and effectiveness of Telecom Consumers Protection and Redressal of Grievances Regulations, 2007 was made through a survey using questionnaire approved by the Authority. The sample size of customers for survey was determined for confidence level of 95% and with a confidence interval of 3% for Category-A Service Area for each of the service provider. All the subscribers in the sample selected in the rural areas were interviewed personally and in the urban areas 75 % were interviewed personally and 25 % interviewed telephonically.

Findings of the independent agency on Quality of Service

3 Cellular Mobile Telephone Service:

3.1 In Maharashtra Service Area (including Goa) the audit of quality of service data of service providers, namely, Bharti-Airtel, Idea, BSNL, Vodafone, Tata Teleservices and Reliance Communications was conducted.

3.2 Objective Assessment/Audit of Quality of Service performance: For most of the network parameters, the service providers meet the TRAI specified benchmark. The Time Consistent Busy Hour (TCBH) reported by all the service providers except RCOM, matched the network busy hour calculated by M/s TCIL auditors. Service Provider's performance in respect of cellular mobile telephone service based on one month data is given in Annex-`1A'. The areas of concern i.e. parameters, for which benchmark is not met by the service providers, are identified based on analysis of one month QoS performance data and live measurement.

3.3 Drive Test: The drive tests were conducted at to verify parameters like Call Drop Rate, Call Set-up Success Rate, Blocked Call Rate and Percentage of Connections with Good Voice Quality. The areas of concern (i.e. parameters) are identified as below:

- Call Set up success rate
- Blocked Call Rate
- Call Drop Rate
- Connections with good voice quality

3.4 Customer perception of service: Service Providers' performance in respect to the level of customer perception of service against the specified benchmark is given in Annex-`1B'.

3.5 Percentage of Customers Satisfied: The gradation on "Satisfaction" score scale i.e. scores of "Very Satisfied" to "Satisfied" is given in Table-1 below. The survey results reveal that there is a need to improve the satisfaction level of subscribers with respect to the Help services, Network Performance, Reliability and Availability and Maintainability across the service providers.

Table-1 (Cellular Mobile Telephone Service - Maharashtra Service Area (including Goa))

Service Providers	% Satisfied with Provision of Service	% Satisfied with Billing Performance		% Satisfied with Help Services	% Satisfied with Network Performance, Reliability and Availability	% Satisfied with Maintainability	% Supplementary Services	% Satisfied with Overall Satisfaction
		Postpaid	Prepaid					
Bharti	95%	90%	97%	83%	86%	86%	97%	78%
BSNL	98%	94%	97%	78%	74%	78%	96%	76%
Vodafone	95%	91%	95%	79%	93%	95%	96%	86%
Idea	96%	90%	98%	84%	91%	91%	96%	88%
Reliance	98%	86%	92%	78%	92%	94%	92%	84%
TTML	95%	95%	98%	87%	92%	94%	96%	91%

4. Basic Service (wire line)

4.1 **Objective Assessment / Audit of QoS performance:** Basic (Wire line) services audit for Maharashtra Service Area (including Goa) broadly indicates that all the operators do not meet the benchmarks for some of the Parameters. Service Provider's performance in respect of basic service (wire line) based on one month data is given in Annex-`2A'. The areas of concern i.e. parameters, for which benchmark is not met by the service providers, are identified based on analysis of one month QoS performance data and live measurement as below:

- Fault repaired by next working day and Mean Time to Repair (MTTR)
- Response time to customers for assistance by Operator

4.2 **Customer perception of service:** Service Providers' performance in respect to the level of customer perception of service against the specified benchmark is given in Annex-`2B'.

4.3 **Percentage of Customers Satisfied:** The gradation on "Satisfaction" score scale i.e. scores of "Very Satisfied" to "Satisfied" is given in Table-2 below. The survey results reveal that there is a need to improve the satisfaction level of subscribers with respect to the maintainability, help services and Provision of Service.

Table-2 {Basic Service (Wireline) – Maharashtra Service Area (including Goa)}

Service Providers	% Satisfied with Provision of Service	% Satisfied with Billing Performance		% Satisfied with Help Services	% Satisfied with Network Performance, Reliability and Availability	% Satisfied with Maintainability	% Supplementary Services	% Satisfied with Overall Satisfaction
		Postpaid	Prepaid					
Bharti	97%	98%	100%	93%	96%	83%	95%	91%
BSNL	74%	96%	-	76%	96%	74%	100%	94%
Reliance	87%	92%	99%	79%	96%	65%	98%	88%
TTML	99%	97%	100%	91%	96%	87%	94%	96%

5. Broadband Service

5.1 Objective Assessment/Audit of QoS performance: The audit for Broadband Service Providers was conducted at their respective network operating centre/point of presence (POPs) in the Maharashtra Service Area (including Goa). Service Provider's performance based on one month data is given in Annex -`3A'. The areas of concern (i.e. parameters), for which benchmark is not met by the service providers are identified based on analysis of one month QoS performance data and live measurements as below:

- Service Provisioning/Activation Time
- Fault repaired by next working day
- Time taken for refund of deposit

5.2 Customer perception of service: Service Providers' performance in respect to the level of customer perception of service against the specified benchmark is given in Annex-`3B'.

5.3 Percentage of Customers Satisfied: The gradation on "Satisfaction" score scale i.e. scores of "Very Satisfied" to "Satisfied" is given in Table-3 below. The survey results reveal that Maintainability, Help Services, Network performance and Billing Performance (Pre-paid) are areas where all service providers have scored relatively lower score as compared to other parameters.

Table-3 (Broadband Service – Maharashtra Service Area (including Goa))

Service Providers	% Satisfied with Provision of Service	% Satisfied with Billing Performance		% Satisfied with Help Services	% Satisfied with Network Performance, Reliability and Availability	% Satisfied with Maintainability	% Supplementary Services	% Satisfied with Overall Service
		Postpaid	Prepaid					
Hathway	93%	94%	91%	66%	81%	17%	96%	77%
BSNL	91%	96%	-	72%	85%	11%	95%	81%
You	96%	92%	92%	81%	88%	20%	98%	83%
Tata Comm	94%	95%	100%	81%	88%	15%	97%	85%
Sify	96%	98%	82%	75%	79%	24%	99%	75%
Airtel	96%	96%	97%	85%	89%	19%	100%	88%
Reliance	90%	90%	98%	71%	83%	13%	94%	75%

6. Telecom Consumers Protection and Redressal of Grievances score:

The Authority noted with concern that the awareness of subscribers of all the service providers regarding the three stage grievance redressal mechanism is still very low. The summary of survey results for assessment of implementation and effectiveness of Telecom Consumer Protection and Redressal of

Grievances Regulations in respect of Cellular Mobile Service, Basic (Wireline) Service and Broadband Service is given in Annex-`1C', Annex '2C' and Annex "3C' respectively.

7. The detailed Report on Quality of Service – Audit/Objective Assessment and Customer Satisfaction Survey, including grievance redressal mechanism, conducted during the period April, 2008 to August, 2008 is placed at TRAI Website (www.traigov.in).

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Annex-`1A`

Objective Assessment of Quality of Service - Service Provider's Performance in respect of Cellular Mobile Telephone Service- Maharashtra Service Area (including Goa)

S.N.	Parameters	Benchmark	GSM OPERATORS				CDMA OPERATORS	
			Airtel	Idea	BSNL	Vodafone	TTML	Reliance
1	Accumulated down time of Community Isolation	< 24 Hrs	300.47	1.1	0	0.28	2.33	1.11
2	Call set-up Success Rate (within licensees own network) (%)	> 95%	92.8%	100%	100%	96.3%	99.3%	100%
3	Service Access Delay (Sec)	9 – 20 Sec	17.4	10.6	5	NR	10.1	4.04
4	Blocked Call Rate							
	(i) SDCCH Congestion (%)	< 1%	0.39%	0.84%	0.81%	0.08%	0	0.00
	(ii)TCH Congestion (%)	< 2%	0.56%	0.84%	1.93%	0.44%	0.5%	0.50%
5	Call Drop Rate (%)	< 3%	1.6%	1.5%	2.65%	1.3%	0.8%	1.16%
	(i) Cell exceeding 3% TCH drop (%)		4%	14.28 %	5.1%	2.97%	4%	3.70%
6	Percentage of connections with good voice quality (%)	> 95%	93.7%	97.20 %	99%	95.5%	96.50 %	97.57%
7	POI Congestion (%)	< 0.5%	13.1%	0.22%	0%	0.02%	0%	0%
8	Response time to the customer for assistance							
	(i) % age of calls answered (electronically) :							
	within 20 seconds (%)	> 80%	100%	100%	100%	NR	100%	97.9%
	within 40 seconds (%)	> 95%	100%	100%	100%	NR	100%	97.9%
	(ii) % age of calls answered by operator (voice to voice):							
	Within 60 seconds (%)	> 80%	85.78%	99.24 %	83.07%	NR	92%	93.87%
	Within 90 seconds (%)	> 95%	91.84%	99.54 %	95.16%	NR	95%	96.48%
9	Billing complaints per 100 bills issued (%)	0.1%	0.07%	0.95%	0.43%	0.087%	0.1%	0.08%
10	% of billing complaints resolved within 4 weeks (%)	100%	100%	100%	100%	100%	100%	100%
11	Period of all refunds / payments due to customers from the date of resolution of complaints as in (ii) above (weeks)	< 4 weeks	< 4 week	2 days.	NA	< 4 weeks	< 4 weeks	<4weeks

NR : Data not reported.

Not Meeting the benchmark

**Annex-`1B`
Customers Perception of Service for Cellular Mobile Telephone Service
through Survey- Maharashtra Service Area (including Goa)**

Service Providers	% Satisfied with Provision of Service	% Satisfied with Billing Performance		% Satisfied with Help Services	% Satisfied with Network Performance, Reliability and Availability	% Satisfied with Maintainability	% Supplementary Services	% Satisfied with Overall Satisfaction
		Postpaid	Prepaid					
Benchmarks	>95%	>90%	>90%	>90%	>95%	>95%	>95%	>95%
Airtel	73%	70%	70%	64%	65%	66%	74%	62%
BSNL	70%	69%	69%	61%	61%	62%	66%	61%
Vodafone	74%	74%	71%	64%	71%	71%	80%	65%
Idea	73%	66%	72%	66%	69%	70%	71%	68%
Reliance	72%	62%	67%	63%	68%	69%	66%	65%
TTML	73%	75%	68%	67%	69%	70%	77%	67%

**Annex-`1C`
Assessment of implementation and effectiveness of Telecom Consumer Protection and Redressal of Grievances Regulations in respect of Cellular Mobile Telephone Service through Survey - Maharashtra Service Area (including Goa)**

S. No	Sub Parameter	Airtel	BSNL	Vodafone	Idea	Reliance	TTML
1	% of customers aware about the three stage grievances redressal mechanism	19.1 %	17.5 %	9.2 %	14.7 %	10.4 %	8.7 %
2	% of customers aware about Call Centre	87.8 %	82.1 %	91.3 %	91.2 %	93.0 %	95.3 %
3	% of customers who have complained in last 6 months to the toll free call centre/customer care/ Helpline telephone number	7.7 %	3.3 %	5.6 %	3.6 %	6.8 %	2.6 %
4	% of customers claimed to have been informed about the action taken on their complaint by call centre	69.5 %	18.9 %	73.8 %	33.3 %	27.4 %	34.5 %
5	% of customers whose billing complaint were resolved satisfactorily by call centre/customer care within four weeks after they lodged their complaint	28.0 %	0.0 %	16.4 %	10.3 %	1.4 %	17.2 %
6	% of customers satisfied with the system of resolving of their complaints by call centre/ customer care/ helpline	80.5 %	54.1 %	73.8 %	64.1 %	73.9 %	72.4 %
7	% of customers aware about of the nodal officer	11.4 %	13.3%	8.7 %	8.1 %	7.0 %	4.7 %
8	% of customers aware about the Appellate Authority	0.0 %	0.1 %	0.0 %	0.0 %	0.0 %	0.0 %
9	% of prepaid customers aware that they can get item-wise usage charge details, on request	2.0 %	4.4 %	3.0 %	6.9 %	2.6 %	1.9 %
10	% of customers who got Manual of Practice containing the terms and conditions of service, grievance redressal mechanism etc. while taking the connection	11.2 %	9.5 %	2.7 %	17.3	8.8 %	52.7 %

Annex-`2A'

Objective Assessment of Quality of Service - Service Provider's Performance in respect of Basic Service (Wire line) - Maharashtra Service Area (including Goa)

S.N.	Parameters	BENCH-MARKS	AIRTEL	BSNL	RELIANCE	TTML
1	Provision of a telephone after registration of demand					
	100 % cases within 7 days (subject to technical feasibility)	100%	99%	74%	35%	83%
2	Fault incidences					
	(No. of faults/100 subscribers /month)	< 3%	0.85%	7.87%	1.25%	1.48%
3	Fault repair by next working day					
	By next working day	>90%	98.40%	88.87%	98.22%	100%
	Within 3 days	100%	100%	92.75%	100%	100%
4	Mean Time To Repair (MTTR)	<8 Hrs	8.3	9.24	4.7	7.9
5	Call Completion Rate within a local network					
	Should be better than 55%	>55%	62.50%	57.36%	77.62%	56%
6	Metering and billing credibility					
	Disputed Bills over bills issued	< 0.1%	0.004%	0.02%	0.02%	0.07%
7	Customer Care					
	(Promptness in attending to customers requests) 95% of requests					
	- Shifts (< 3 days)	95%	92.60%	77.00%	100%	100%
	- Closures (< 24 Hrs.)	95%	91.83%	90.64%	98%	100%
	- Additional Facility (< 24 Hrs.)	95%	86.42%	94.40%	96%	100%
8	Response Time to the customer for assistance					
	(i) % age of calls answered (electronically):					
	within 20 seconds	80%	100%	100%	100%	100%
	within 40 seconds	95%	100%	100%	100%	100%
	(ii) % age of calls answered by operator(voice to voice):					
	within 60 seconds	80%	85.83%	100%	99%	92%
	within 90 seconds	95%	91.83%	100%	100%	95%

NR : Data not reported.

Not Meeting the benchmark

**Annex-`2B`
Customers Perception of Service for Basic Service (Wire line)
through Survey - Maharashtra Service Area (including Goa)**

Service Providers	% Satisfied with Provision of Service	% Satisfied with Billing Performance		% Satisfied with Help Services	% Satisfied with Network Performance, Reliability and Availability	% Satisfied with Maintainability	% Supplementary Services	% Satisfied with Overall Satisfaction
		Postpaid	Prepaid					
Benchmarks	>95%	>90%	>90%	>90%	>95%	>95%	>95%	>95%
Airtel	66%	67%	68%	65%	67%	63%	67%	65%
BSNL	63%	71%	-	61%	72%	60%	82%	70%
Reliance	63%	66%	67%	60%	67%	54%	68%	64%
TTML	70%	69%	71%	66%	70%	64%	70%	68%

**Annex-`2C`
Assessment of implementation and effectiveness of Telecom Consumer
Protection and Redressal of Grievances Regulations in respect Basic
Service (Wire line) through Survey - Maharashtra Service Area (including
Goa)**

S. No	Sub Parameter	Airtel	BSNL	Reliance	TTML
1	% of customers aware about the three stage grievances redressal mechanism	1.8 %	4.2 %	1.6 %	2.3 %
2	% of customers aware about Call Centre	99.3 %	97.5 %	98.8 %	96.9 %
3	% of customers who have complained in last 6 months to the toll free call centre/customer care/ Helpline telephone number	6.0 %	2.1 %	14.7 %	7.0 %
4	% of customers claimed to have been informed about the action taken on their complaint by call centre	57.6 %	30.4 %	42.4 %	66.2 %
5	% of customers whose billing complaint were resolved satisfactorily call centre/customer care within four weeks after they lodged their complaint	45.5 %	75.0 %	34.5 %	66.7 %
6	% of customers satisfied with the system of resolving of their complaints by call centre/ customer care/ helpline	78.0 %	65.2 %	59.0 %	70.6 %
7	% of customers aware about the nodal officer	0.8 %	0.0 %	1.2 %	0.6%
8	% of customers aware about the Appellate Authority	0.5%	0.0 %	0.7 %	0.2 %
9	% of prepaid customers aware that they can get item-wise usage charge details, on request	4.8 %	0.0 %	0.0 %	1.7 %
10	% of customers who got Manual of Practice containing the terms and conditions of service, grievance redressal mechanism etc. while taking the connection	43.4 %	0.0 %	41.0 %	14.6 %

Annex-`3A`
Objective Assessment of Quality of Service - Service Provider's Performance in respect of Broadband Service - Maharashtra Service Area (including Goa)

S. N.	Parameters	Benchmark	Bharti	Hathway	BSNL	Reliance	SIFY	TTML	YOU Telecom	VSNL
1	Service Provisioning /Activation Time 100% cases (subject to technical feasibility)	<15 working days	98.46%	99.86%	2.38%	78.64%	100.00 %	94.80 %	100.00%	100.00%
2	Fault Repair / Restoration Time									
	By next working day:	> 90%	97.59%	87.45%	No record is available.	98.00%	88.88%	95.65 %	97.81%	83.00%
	within 3 working days:	99%	99.51%	98.73%	No record is available.	99.00%	100%	100.00 %	99.64%	96.00%
3	Billing Performance									
	Billing complaints per 100 bills issued	< 2%	*	1.53%	0.76%	0.15%	NA	0.30%	0.16%	1.89%
	%age of Billing Complaints resolved	100% within 4 weeks	NA	100%	100%	100%	NA	100%	100%	100%
	Time taken for refund of deposits after closure:	100% within 60 days	100%	100%	79.80%	100%	NA	100%	100%	100%
4	Response time to the customer for assistance									
	% age of calls answered by operator (Voice to Voice)									
	Within 60 seconds	> 60%	90%	60-80%	NR	80.84%	91%	90.00 %	86.91%	90.18%
	Within 90 seconds	> 80%	93%	80-90%	NR	85.99%	97%	94.00 %	91.13%	97.39%
5	Bandwidth Utilization/ Throughput:									
a)	Bandwidth Utilization									
	i) POP to ISP Gateway Node [Intra-network] Link(s)	< 80% link(s) / route bandwidth utilization (TCBH).	71.40%	<80%	48.75%	55.00%	54.76%	70%	63.12%	<80%
	ii) ISP Gateway Node to IGSP / NIXI Node upstream Link(s) for International connectivity	< 80%	77.60%	<80%	NA	NA	54.19%	89%	76.67%	<80%
b)	Broadband Connection Speed (download) - from ISP Node to User	> 80%	93.5%	85.18%	92.50%	92.59%	94.91%	97.16 %	96.72%	85.00%
6	Service Availability / Uptime (for all users)	> 98%	99.92%	99.10%	100%	99.59%	100%	99.73 %	98.07%	96.10%
7	Packet Loss	< 1%	0%	0.12%	<1%	0.00%	<1%	0.50%	<1%	0.00%
8	Network Latency (for wired broadband access)									
	User reference point at POP / ISP Gateway Node to International Gateway (IGSP/NIXI)	< 120 msec	79.1ms	20ms	48.26ms	3.35ms	<45ms	40ms	30ms	80ms
	User reference point at ISP Gateway Node to International nearest NAP port abroad (Terrestrial)	< 350 msec	286.9ms	320ms	NR	271.3ms	<300ms	240ms	295ms	180ms
	User reference point at ISP Gateway Node to International nearest NAP port abroad (Satellite)	< 800 msec	NA	NA	NA	NA	NA	NA	NA	NA

* Bharti is filing the billing complaints with wireline services following the guidelines of wireline services laid by TRAI. Bharti is considering only metering complaints under this head.

NA : Not Applicable

Not Meeting the benchmark

**Annex-`3B`
Customers Perception of Service for Broadband Service through Survey -
Maharashtra Service Area (including Goa)**

Service Providers	% Satisfied with Provision of Service	% Satisfied with Billing Performance		% Satisfied with Help Services	% Satisfied with Network Performance, Reliability and Availability	% Satisfied with Maintainability	% Supplementary Services	% Satisfied with Overall Satisfaction
		Postpaid	Prepaid					
Benchmarks	>90%	>90%	>90%	>90%	>85%	>85%	>85%	>85%
Hathway	69%	68%	66%	55%	61%	36%	67%	60%
BSNL	66%	64%	-	58%	63%	36%	68%	62%
You Telecom	66%	66%	64%	60%	63%	36%	68%	62%
Tata Comm	67%	66%	80%	61%	64%	36%	70%	63%
Sify	67%	67%	62%	58%	61%	39%	69%	58%
Airtel	66%	67%	67%	63%	65%	40%	67%	64%
Reliance	64%	64%	69%	56%	61%	35%	66%	58%

**Annex-`3C`
Assessment of implementation and effectiveness of Telecom Consumer Protection and Redressal of Grievances Regulations in respect Broadband Service through Survey - Maharashtra Service Area (including Goa)**

S. No	Sub Parameter	Hathway	BSNL	You Telecom	Tata	Sify	Airtel	Reliance
1	% of customers aware about the three stage grievances redressal mechanism	2.8 %	3.3 %	2.9 %	2.9 %	2.1 %	3.8 %	2.8 %
2	% of customers aware about Call Centre	99.2 %	97.4 %	99.9 %	99.7 %	99.4 %	99.6 %	99.4 %
3	% of customers who have complained in last 6 months to the toll free call centre/customer care/ Helpline telephone number	35.2 %	8.4 %	50.8 %	18.4 %	34.8 %	13.8 %	38.0 %
4	% of customers claimed to have been informed about the action taken on their complaint by call centre	31.5 %	15.6 %	43.2 %	60.0 %	29.5 %	52.4 %	39.7 %
5	% of customers whose billing complaint were resolved satisfactorily call centre/customer care within four weeks after they lodged their complaint	17.6 %	20.0 %	22.9 %	22.7 %	0.0 %	38.5 %	16.8 %
6	% of customers satisfied with the system of resolving of their complaints by call centre/ customer care/ helpline	48.5 %	44.4 %	63.6 %	54.2 %	47.8 %	65.3 %	45.8 %
7	% of customers aware about the nodal officer	6.0 %	2.1 %	14.3 %	26.6 %	42.5%	44.0 %	8.3 %
8	% of customers aware about the Appellate Authority	2.1 %	1.4 %	1.2 %	1.7%	1.7 %	3.0 %	1.5 %
9	% of prepaid customers aware that they can get item-wise usage charge details, on request	33.8 %	11.3 %	41.2 %	21.5 %	35.5 %	12.9 %	3.4 %
10	% of customers who got Manual of Practice containing the terms and conditions of service, grievance redressal mechanism etc. while taking the connection	23.5 %	13.3 %	30.9 %	14.5 %	20.6 %	7.7 %	21.5 %