

Our Ref:VNOAI/2018/NTP/003 Dated:22.01.2018

The Chairman,

Telecom Regulatory Authority of India
Doorsanchar Bhawan, Old Minto Road
New Delhi-110001

**Subject:Inputs for the NTP-2018 by the VNOAI on behalf of the VNOIndustry.
In reference to consultation paper on “Inputs for Formulation of National Telecom
Policy-2018”**

Sir,

This is with reference to the meeting held on 17th January in TRAI on the above subject. We hereby submit our written comments in connection with the same.

The **Virtual Network Operators Association of India (VNOAI)** represents the interests of the nascent **Virtual Network Operator (VNO) industry** in India. It is working with the existing Licensed VNOs which are about 120 in number and potential VNOs plus the ecosystem partners to ensure that the **VNO industry** in India develops in a healthy and sustainable manner, and is able to meaningfully contribute towards the Government's aims to achieve universal access to communication, universal high-speed internet access and universal financial inclusion using the broadband and mobile phone as a medium.

One of the strategies for seamless delivery of converged services is to move towards a Unified License regime and facilitate delinking of licensing of networks from the delivery of services so that Telecom Service Provider (TSP) can utilize their networks and spectrum efficiently by sharing active and passive infrastructure and also to facilitate resale at service level by introduction of Virtual Network Operator (VNOs.)

While introducing the UL regime (in its first phase), the Department of Telecommunications (DoT) had decided that this regime may be introduced over two phases -with the delinking of licensing for core networks from the delivery of services be taken up in second phase. In convergence era, same network can provide various services which are independent of network layer, which means that -the delivery of

services can be provided by one operator and network may be owned by distinct operator. **VNOs are going to play a major role in the delivery of services in the next decade.**

Therefore, we submit our inputs for the NTP-2018 which will ensure achievement of the DoT's stated aim in the next phase after the rollout of NOFN for universal mobile and broadband coverage- by allowing all rural and tribal Indians irrespective of income or location to access mobile and broadband services at prices affordable to him/her. We, the VNOs would like to bring in proximity to the rural and remotest population, to deliver all the services and hand hold the rural and tribal population and achieve the target of GOI for the digitization of whole of India.

Many of our member VNOs are having Global experience in delivering and handholding of the telecom services, to the remotest areas, in some of the developed geographies and would like to share their global experience in different geographies as stated briefly below:-

1. **Viability Gap Funding by USO-Fund leveraged by the VNOs and MVNOs in India:**

Delivering of Mobile telephony and Broadband services to the rural and tribal areas by viability gap funding from the USO-Fund. We are sharing herewith the Global case studies of USO Fund utilization in various geographies in the attached annexures.

2. **Mandatory VNOs for the M&A in India in the interest of ensuring fair competition and avoiding creation of monolithic environment:**Due to

consolidation of the telecom service providers in India, there are chances that, by M&A activity, the monopolistic and competitiveness of the services will be at stake. In order to control the market dynamics and save it from exploitation by the monopolistic forces -we would like to share the inputs on the Global practice of leveraging VNOs and MVNOs to save the competitiveness of the market and avoid exploitation of the consumers by cartelization among the TSPs. Global case studies are attached in the annexure.

3. **Licensing reform for the VNOs (Virtual Network Operators).** Please refer to the introduction of VNOs as per the strategies envisaged in the NTP-2012 for moving towards a Unified License (UL) regime to exploit the benefits of convergence, spectrum liberalization and facilitate delinking of the licensing of networks from the delivery of services so as to enable the Telecom Service

Providers (TSPs) to optimally and efficiently utilize their networks and spectrum by sharing active and passive infrastructure. Another strategy is to facilitate resale at the service level, both wholesale and retail, for example, by introduction of virtual operators.

However- the NTP-2012 intended for the introduction of VNOs in order that it will lead to faster penetration of telecom services besides encouraging lower rates and introduction of new & innovative services including machine-to-machine (M2M) communication services. It is opined, that there are many un-served and under-served areas where basic telecom connectivity, internet and broadband services need to be provided. Further, current level of competition in Indian telecom market may get reduced due to possible merger/acquisition (M&A) among NSOs. There are very high chances of cartelization among the three or four players in the market place to exploit the marketplace. Therefore, mandatory introduction of VNOs will ensure to maintain the level of competition for the benefit of end customers. Accordingly, the mature Indian telecom market is ripe for entry of VNOs for providing differentiated, value added and customized services for which competition is practically non-existent. It is also opined that VNOs are likely to invest in less competitive areas (like 'C' class towns / villages) where NSOs have not ventured. This will increase the rural tele-density and broadband penetration in such areas. Once the basic infrastructure using OFC is put in place through National Optical Fibre Network (NOFN) project - introduction of VNO may help in quick and efficient utilization of the OFC network. Also, VNOs may have ability to sell the services of existing NSO(s) to segments, which are beyond the marketing reach of the NSOs. Therefore, VNOs can be an important stakeholder to achieve targets defined in NTP-2012.

In pursuance of the NTP-2012 licenses, which were issued for VNOs after the announcement of VNO Guidelines by DOT on 31-05-2016. -The licensing guidelines were welcomed by all the stake holders. Many companies acquired the VNO licenses in various authorizations. But there are certain impediments in the roll out of the VNO services which are briefly explained in the attached document.

4. Financial Reforms required in NTP-18 in order retain the health of the industry:-
This is in reference to the various issues of financial issues like AGR (double taxation) being faced by the industry. The reforms are the need of the day for the whole telecom industry. Due to financial terms and conditions envisaged in the Licensing guidelines, the VNO industry is becoming non-starter. The future policy needs to address the issues and create an environment so that the intent

perceived in the NTP-12 is taken forward and the aim of the Govt to keep the industry growing with healthy competition for the benefit of the end consumers.

The Telecom being the sector which directly impacts the GDP of the country, Govt needs to prescribe the policy which stimulates the healthy growth of the industry. The new NTP must create environment for the ease of doing business for the VNO industry which is at its infancy stage. The VNOs should not be liable to incur various levies and taxes for the services as it is likely to operate as a reseller of the existing services of the parent NSO. Thus reforms are required to be incorporated in the new NTP-2018 on the lines of GST.

The Department of Telecom should prescribe a single fee instead of multiple fees like license fee on AGR, SUC and other government levies so that the service provider doesn't have to incur cost and high compliance and regulatory costs and have to deal with multiple agencies. As the VNO Licensee be considered as reseller of services of the NSO- therefore the charges paid for the acquisition of the services of the NSO, should be allowed as a Pass Through and shall not be considered as infrastructure cost and the double taxation be avoided.

For Virtual Network Operators Association of India

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Enclosure: Annexures as above.

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1. Viability Gap Funding by USO-Fund leveraged by the VNOs and MVNOs in India

Brief Summary in Indian Context

We hereby submit that “basic mobile access on voice, SMS, and data” be deemed equally important as national fiber connectivity and mobile coverage, from the perspective of eligibility for USO funding –and hence be eligible for projects subsidized through the Universal Service Obligation Fund.

TSPs and VNOs may be allowed to launch plans with a view to providing a subsidized mobile connection. Only the poorest of the poor, and customers otherwise deemed eligible by the government should be given access to these plans. Projects may be allowed to be implemented in all circles of India, in both rural and urban India.

DoT may fix suitable norms and eligibility criteria to decide who will be eligible for such subsidized connections. As per global best practice, households without even a single mobile connection, women, vulnerable sections of the community and rural/remote areas may be prioritized.

TSPs and VNOs will be then launching an offer with bundled free minutes/SMS/Data for this identified segment at a low affordable cost. The viability gap may be funded through the USO Fund.

We submit that the above initiative will be of great benefit to the unconnected masses in India. Our members, who are the licensed VNOs of India, are eager to participate in this envisaged program and help achieve the aim of universal mobile use

Persisting Gap in universal mobile coverage

Globally the VNO industry is playing a key role in ensuring that mobile services remain affordable even to the poorest sections of the society and to customers who are living in hitherto unconnected areas. By using innovative distribution channels and adopting low cost models of operations – in many cases, VNOs are able to serve customers at lower costs, compared to the TSPs.

Hence it is possible for VNOs to profitably acquire and serve customers even in remote areas, which remained unconnected as on today, because they are unable to afford to purchase Talktime and data.

One of the key objectives of the DoT's VNO Policy is to ensure universal access to mobile connectivity as well as ensuring healthy competition between the VNOs and also between the VNOs and TSPs. This will ensure that customers have a plethora of choices in terms of access to affordable means of mobile communications.

As of 30thNov 2017 – As per Telecom Subscription Data in India

Total Urban Wireless Telephone Subscribers (m)	664.94
Urban Tele density	162.84%
Total Rural Wireless Telephone Subscribers (m)	497.53
Rural Tele density	56.15%

More than 380m Indians in Rural areas are still unable to avail mobile connectivity – mostly because of lack of affordability. Because of the scenario of same subscriber having multiple SIM cards – the actual number of such unconnected rural Indians may be even higher.

Similarly even in urban India, despite the tele density of 163%, there are lakhs of urban poor who are unable to afford mobile connections.

Despite the rollout of coverage in rural areas by the TSPs– **Hence it is seen that there are at least 500m potential customers in rural India still outside the ambit of mobile connectivity.** Even after accounting for the very young, and the very old –there are still a large number of Indians, who are yet to enjoy the benefits of mobile connectivity and become “digitally included.”

This translates to approximately 100m households in rural India alone. The TSPs may not find it viable to address these customers profitably.

Similarly, in Urban India, VNOAI estimates that there may be approximately 150mn potential customers who are unconnected. **This translates to 25-30mn households.** It is also observed that the unconnected customers are disproportionately women and girls and the senior citizens. Limited affordability (many households may be able to afford only connection) ensures that only the head of the household may have access to his own personal mobile. The most vulnerable segments of the society may not have access to mobile phone connections.

AnnexureGlobal Scenario and Case Study for the Viability Gap Funding by USO-Fund for Mobile Subscribers

In several countries, the Government regulators are levying a Universal Service Fund (similar to our USOF) and the proceeds of this fund are used to partially fund programs aimed at the fulfillment of the universal connectivity objectives.

One of the most successful programs is run in the USA. Some details of this program are furnished below.

USA LIFELINE PROGRAM

- In the USA, the FCC (Federal Communications Commission) collects a percentage of the revenues of the licensed telecom operators and allots to a fund called the USF (Universal Service Fund)
- This fund is used to subsidized tower rollout and expand coverage (including LTE/3G coverage) in rural USA. **However, this same fund is ALSO USED to run a federally subsidized program, aimed at providing all American households with a mobile phone and affordable connectivity. This program is called as “LIFELINE Program”.** (<https://www.fcc.gov/general/lifeline-program-low-income-consumers>)
- Lifeline is the FCC's program to help make communications services more affordable for low-income consumers. Lifeline provides subscribers a discount on monthly telephone service purchased from participating providers in the marketplace.
- The FCC and state governments have mandated some of the licensed operators to provide the low-income households in that state with a subsidized mobile connection.
- Mobile phone connectivity is considered as a basic need of people...so government is providing at highly subsidized rates to the poor people. As per the FCC – access to phones allows access to communication, information and emergency services.
- **This program is mainly run through VNOs – who are providing cheap cellphones, and low-cost plans to poor people, and collecting subsidy from the FCC**
- This program is running in the USA since 1985. Fund collection, accounting, program audits, administration, data management and fund disbursement is done by a dedicated Universal Service Administrative Company (USAC).

- The FCC has set out minimum service standards for Lifeline-supported services to ensure maximum value to end customer, and minimum subsidy wastage, and established a National Eligibility Verifier to make independent subscriber eligibility determinations.
- This program is supported with a budget of \$2.25 billion in 2017. The budget will be indexed for inflation in subsequent years.

Eligibility Criteria

Any American who is part of any of the below government schemes are eligible for a lifeline sponsored connection.

- Supplemental Nutrition Assistance Program (SNAP) – “Food Stamp” program allowing the poor to buy groceries and food items.
- Supplemental Security Income (SSI) – Basic income for the poor
- Medicaid – Government provided Healthcare aid
- Federal Public Housing Assistance – Government provided Housing assistance
- Tribal-specific programs: Bureau of Indian Affairs General Assistance, Tribally-Administered Temporary Assistance for Needy Families (TTANF), Food Distribution Program on Indian Reservations (FDPIR), Head Start – Aimed at indigenous tribal Americans, who (on average) are poorer and more vulnerable.
- Income at or below 135% of the Federal Poverty Guidelines- All Americans who are under 135% of the poverty line
- Veterans Pension and Survivors Benefit Programs – Ex-Armed forces personnel who are receiving assistance from the military or from the government.

The program aims at providing one connection per eligible household

Discount Provided

As of now: the USF Lifeline program gives a subsidy of

- \$9.25 per subscriber per month – for a service providing 500 minutes, 500 MB of 3G data
- \$9.25 per subscriber per month – for 150 GB of Data over fixed broadband
- In certain Tribal areas – where the connection is given to a member of a recognized tribe – the subsidy may be up to \$25

The subsidy is provided as long as the recipient is part of the lifeline program. A recipient may continue to receive the benefits indefinitely as long as he remains eligible for the benefits.

Typical lifeline plan offered by the participating telecom operators is \$20-35 before discount – 500-1000 minutes+500MB to 1GB data. This is approximately 20-50% discounted to normal market price before applying the subsidy, and 40-70% discounted to market after subsidy. This plan is sold and activated only for eligible subscribers.

Potential Role of USO fund for similar program in India

DoT has been collecting a % of AGR from all licensed telecom operators, and has been using this fund to further various communication inclusion initiatives of the government like NOFN. This fund has proved key in ensuring that strategic projects aimed at ensuring universal connectivity through access to mobile coverage and broadband are taken up for implementation – EVEN IF this project is not financially lucrative to execute. Thus, the USO fund is used to subsidize communication good programme to connect 250,000 Gram Panchayats for creating infrastructure for the connectivity to the Rural India projects, where the TSPs find such projects financially unviable/non-lucrative.

Currently, most of the USO Fund disbursement is towards projects aimed at Fiber rollout, fixed line and Broadband access to villages and, tower and network rollout in Remote forest areas affected by extremism.

Some of the key projects funded are –

- Project to connect all villages in India with Fixed line and Broadband.
- To connect all panchayats through fiber optic cable – Execution of NOFN by BBNL very soon.
- Tower rollouts and mobile connectivity in forested and extremism prone areas.
- Innovative projects to provide solar powered phone chargers, informational content to village Self-help groups.

Similar to other countries – the USO Fund should also be used for funding a simple basic monthly subscription plan (with some allocation of free minutes, some SMS, and some data). Cost of the recurring monthly plan should be partially borne by the customer, and partially borne by the USO fund.

Just like towers, fiber connectivity and mobile coverage and last mile connectivity is equally key components towards ensuring that all Indians gain access to mobile phone voice and data usage. **They are also key “infrastructure” and may be considered as the missing “last mile link” ---the lack of which keeps millions of Indians from benefiting from mobile use, despite living in an area with mobile coverage and serviced by the existing TSPs.**

In the near future – the BOTTLENECK which limits most unconnected Indians from accessing mobile phones, will no longer be coverage or access to TSPs distribution infrastructure. TSPs are already covering almost 90% of the population of our country.

The real issue is lack of affordability for monthly subscription. TSPs are likely to be reluctant to use their resources to directly achieve the government’s aims of providing mobile connectivity to all – and **hence we submit that the most effective way to tackle this challenge is to leverage the VNOs, the funds for the viability gap be funded by USO-Fund. As we have seen in the case of the USA – this is a proven model and will be successful.**

The TSP’s also benefit from increased traffic, and increased hosted subscriber base through the VNOs. BSNL has been the most proactive TSP in engaging with upcoming VNOs in India, and this scheme will also benefit BSNL and it will monetize their infrastructure investments in rural areas.

Potential Budget

We propose that the estimated costs of providing low cost mobile connections to deserving customers, be borne by the USO fund, and by the end consumer in a fixed ratio. We suggest 75%: 25%, where customer pays 25% of the costs, and the rest is borne by USO fund.

	Unconnected Households (lakhs) (Plintron Estimate)	Estimated Cost of Basic mins/ SMS/data package per month (Rs) **	Estimated Cost of Basic mins/ sms/data package per year (Rs)	Total Estd Cost of Basic mins/ sms/data package per year (Rs Cr)	Subsidy from DoT (USO) - 75% of Cost. (Rs. Cr)
Rural	1000	40	480	4800	3600
Urban	300	40	480	1440	1080
Total	1300	40	480	6240	4680

** Tentative cost

Scheme reach assumed 100%

2. Mandatory Obligation to host VNOs for operators opting for merger with, or acquisition of other operators. (through the M&A activity in India.)

Summary

Over the last 8 years- several new TSPs had launched their services in India, leading to unprecedented drop in prices for end customers, through intense price competition between the 10-12 active operators per circle. This led to an accelerated increase in the customer base of the operators, leading to increase in mobile service penetration in India.

However, there have been recent developments of several TSPs either merging with, or being acquired by other TSPs. This has already led to, and will continue to lead to – a sharp drop in competitive intensity in the market, since in the near future, only 4-5 players will remain active in each circle. Despite the presence of Reliance Jio as a credible competitor, the market has still consolidated and the largest players have continued to maintain their dominance. The smaller TSPs have lost share, and are merging with/acquired by the larger TSPs.

In the near future, this scenario will lead to increase in end customer prices of minutes, SMS and data. As the market consolidates, the TSPs will invariably increase prices. This will impact the improving trend of increased mobile penetration and affordability of mobile services in India.

Globally, to avoid this scenario, the regulators mandate the TSP's to share network capacity (to the order of 20-40% of their total) compulsorily with MVNOs in order to maintain a competitive environment. This ensures that customers can avail of choice of multiple brands, and ensure that pricing control with the large TSP's is not excessive.

European countries, which are at the forefront in successful MVNOs have demonstrated scenarios to open up MVNO mandatorily as part for TSP M&A led consolidation. In Austria – As a part of merger between Hutch and Orange, Hutch must earn 30% of annual revenue via Wholesale business with at least 16 MVNOs. Similarly, in Ireland- during the Hutch and Telefonica Merger, and in Italy- Wind and Hutch Merger and in Germany – the acquisition of E-Plus by Telefónica – similar mandates were imposed to protect the competitiveness of the market.

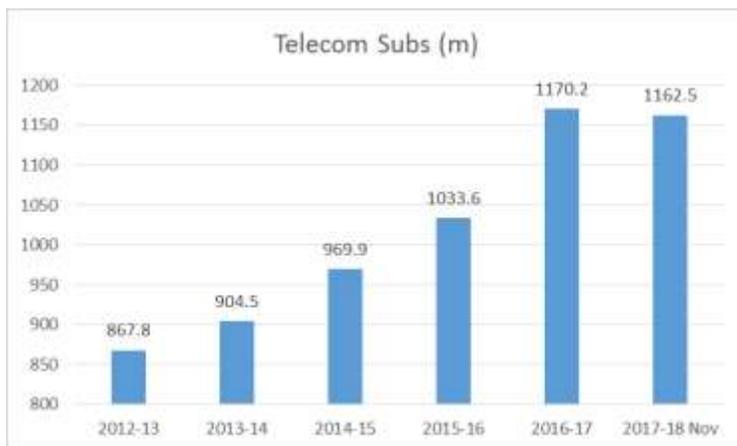
We submit that under the current scenario in India, with rapid consolidation of the TSPs – and with multiple VNOs readying for launch – the time is right for a similar set of regulations mandating the TSPs to support MVNOs through allowing access to TSP's network.

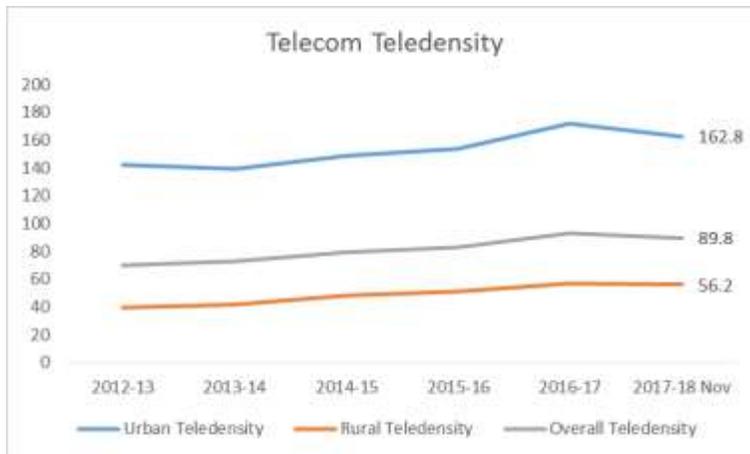
Need for Policy Reviews of the M&A to retain the competitiveness in the market

Over the last 8 years- we had witnessed the launch and expansion of several new operators in India. This was a result of new licenses and spectrum issued. This led to the number of operators active in India, increasing to 10-12 per circle.

As a result of this unprecedented competition within each telecom circles, there was dramatic reduction in the costs of minutes, SMS and data to the end customer – as many operators reduced prices to attract customers. In many cases, even the incumbent leading telecom operators were forced to match the pricing of the newer players.

This led to substantial reduction in the telecom spends of the customers. This in turn led to an accelerated increase in the customer base of the operators, leading to increase in mobile service penetration. India saw growth in mobile penetration both in Urban and in rural India. Further the newer operators also launched innovative services and pricing, which were previously not available in India.



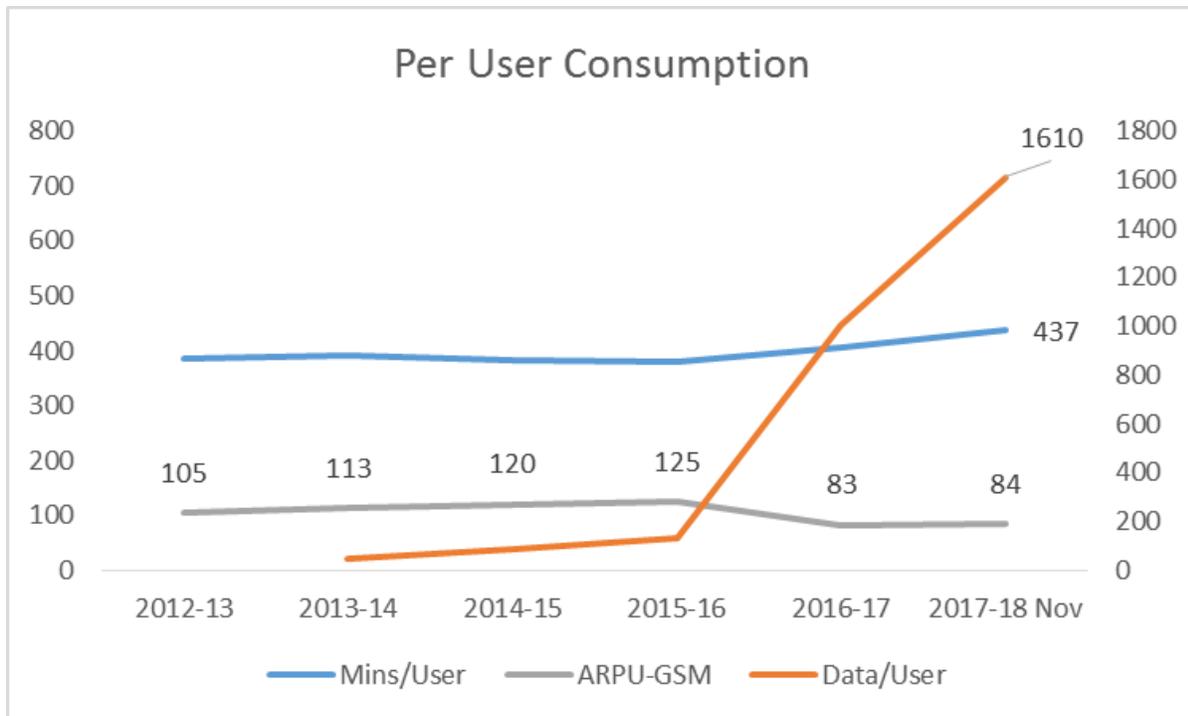


The improved performance of the parameters like affordability (measured by ARPU), and increased mobile penetration can be attributed to the stiff competition between the operators.

It is universally accepted that presence of a competitive market, is key to ensure that the benefits of advanced and cheaper technology reaches end users smoothly, and in a cost-effective manner.

The launch of services from M/s Reliance Jio has also demonstrated that rise in competition, invariably leads to increased affordability of services, since the operators (both incumbent and new) will invariably reduce prices to ensure their continued competitiveness in business.

Compared to mid-2016, now in end-2017, data and voice prices have become much more affordable and Indians are able to talk and consume data in much higher volumes than previously afforded.



Despite the emergence of Jio as a strong competitor to the leading players like Airtel, Vodafone and Idea, and also despite the improved performance of BSNL – the number of active players in each circle has reduced from 9-11 to 4-5 only.

This has led to steady concentration of customer and revenue shares over the last few quarters. The large players have now become dominant.

Mobility Business ONLY							
Gross Revenue ('000s of CRORES)	Jan-Mar 16	Apr-Jun 16	Jul-Sep 16	Oct-Dec 16	Jan-Mar 17	Apr-Jun 17	Jul-Sep 17
Airtel	19.8	21.1	21.0	20.1	19.7	20.6	20.5
TATA	4.8	4.8	4.3	4.1	3.4	3.1	1.0
Telenor	1.3	1.5	1.5	1.4	1.3	1.2	2.8
Airtel+TATA+Telenor	26.0	27.4	26.9	25.6	24.4	24.9	24.2
Revenue Market Share	40.2%	41.8%	41.7%	41.9%	41.6%	41.4%	38.9%
Vodafone	13.2	13.5	13.3	12.7	12.4	12.9	12.3
Idea	10.7	10.8	10.3	9.8	9.4	9.6	9.1
Vodafone+IDEA	23.8	24.3	23.6	22.5	21.8	22.5	21.4
Revenue Market Share	36.9%	37.1%	36.6%	36.9%	37.1%	37.4%	34.3%
RCOM	3.8	3.4	3.2	3.1	2.8	2.3	1.7
MTS	0.4	0.4	0.3	0.2	0.2	0.1	0.1
RCOM+MTS	4.1	3.8	3.5	3.3	3.0	2.4	1.8
Revenue Market Share	6.4%	5.8%	5.4%	5.5%	5.1%	4.0%	2.9%
BSNL/MTNL	6.9	6.0	6.4	5.8	5.5	5.7	4.6
JIO	0.0	0.0	0.1	0.3	0.8	1.8	7.7
Aircel	3.5	3.7	3.8	3.3	3.0	2.8	2.5
Videocon	0.4	0.4	0.2	0.1	0.1	0.1	0.1
TOTAL	64.7	65.6	64.4	61.1	58.6	60.2	62.3

With more exits and mergers expected by the media and independent market analysts – there may be only 4 TSPs left in each circle

Globally such reduction in market competitiveness is invariably accompanied by increase in end user price for voice, sms and data. The incumbent operators will consolidate to control the market – and steadily increase prices for the end consumer.

The operators may invest in the latest technologies and also make capital investments. Further they may also contribute to the government revenues, through participation in spectrum auctions, and also through the regulatory fees and payments.

However, the fact remains that the customers will have to bear the burden of higher mobile phone expenditure. In India, 600-700 million Indians still do not use mobile services (GSMA estimates).

Over the last many years, mobile penetration in India has been steadily improving. This improvement is now under risk, and the rate of increase of mobile penetration may slow down sharply.

Globally – to avoid the above described scenario and ensure that: –

- Customers continue to enjoy choice and the benefits of a competitive market, DESPITE the consolidation (through mergers and acquisitions) among the TSPs.

WHILE AT THE SAME TIME ensuring that: -

- spectrum is allocated to a few responsible players and not fragmented among several TSPs
- Capex expenditure for the industry as a WHOLE is kept at sustainable levels (ensuring that too many TSP's don't invest and built duplicate infrastructure across the country, far in excess to requirements)

The regulatory authorities mandate that: -

- TSPs which are opting for mergers with other TSPs, or acquiring other TSPs must allocate a fixed proportion of their spectrum capacity (typically 20-40% depending on the 'dominance' of the operator) for the exclusive use of MVNOs.
- Such TSPs may also be mandated to compulsorily host MVNOs (maybe 1-5 MVNOs)
- TSPs are mandated to provide 'non-discriminatory access to MVNOs i.e. the TSP must extend all facilities (like coverage, access to 4G networks etc.) to the customers of its hosted MVNOs, that it provides to its own customers.
- In some cases, TSPs purchasing spectrum in auctions are also subject to mandates, allowing MVNO access to the TSP's network.

We submit that similar regulations may be introduced in India also. Mandating the large incumbent TSPs in India to support MVNOs – will ensure that several MVNOs will emerge in India in a short period of time.

With a large number of MVNOs, co-existing with the 4 large TSPs which will emerge post the current wave of consolidation – customers will continue to enjoy the benefits of a competitive market viz – lower, more affordable costs, innovative services and choice of multiple brands.

The dominance of the large TSPs –expressed as pricing power in the market, will be curtailed by the availability of a large number of MVNOs, who will be 'alternate service providers' for the end consumers.

We submit that such mandates be applied by DoT and TRAI, to TSPs opting for mergers and acquisitions so that the end customers continue to be benefited.

Global Scenario and Case Study

There have been several instances where regulators in other countries have mandated wholesale network access to MVNOs, as a precondition for allowing mergers and acquisitions among the TSPs in that country

Austria – Acquisition of Orange Austria by Hutchison.

Hutchison was mandated to

- Ensure that up to 30% of its capacity was dedicated to its Wholesale business.
- Allow wholesale access (i.e. make its spectrum available) to up to 16 MVNOs for the next ten years;
- Sign wholesale access agreement with at least one MVNO approved by the European Commission BEFORE completing the acquisition.

Ireland – Merger between Hutchison and Telefonica.

Hutchison was mandated to

- Ensure the short-term entry of two mobile virtual network operators (MVNOs), with an option for one of them to become a full mobile network operator later. Hutchison committed to divest five blocks of spectrum in the 900 MHz, 1800 MHz and 2100 MHz bands to either MVNO at a later date.
- Ensure to sell 30% of the merged company's network capacity to two MVNOs in Ireland at fixed payments. (Instead of the usual “pay-as-you-go” wholesale pricing model, typically used between TSPs and MVNOs, where payments are made as per the usage of the MVNO’s subscribers.)

Italy – Acquisition of WIND by Hutchison (Drei)

Hutchison was mandated to support MVNOs as well as an expected new entrant TSP in the Italy market through spectrum sharing, allowing access to LTE and new technologies.

Germany – Acquisition of E-Plus by Telefonica.

Telefónica submitted commitments to the regulator as below-

- To sell, before the acquisition is completed, up to 30% of the merged company's network capacity to one to three MVNOs in Germany at fixed payments.
- Extend existing wholesale agreements with Telefonica’s and E-Plus' partners (i.e. MVNOs and Service Providers) and to offer wholesale 4G services to all interested players in the future.
- Improve its wholesale partners' ability to switch their customers from one MNO to another (i.e. make it easier for its MVNOs to switch to the network of another TSP if they want)

Potential Implementation in India

We hereby submit that there is a need to mandate the TSPs in India to support VNOs. This should be a precondition to approve any merger or acquisition between TSPs in India.

This may be done through: -

1. TSPs may be asked to dedicate a percentage of their total network capacity (as defined by traffic carried, number of customers hosted etc.) to MVNOs
2. TSPs may be asked to support a fixed number of licensed VNOs on their network.

TSPs must also be asked to ensure that the subscribers belonging to the MVNOs hosted by them, are given access to the same network (including LTE, 3G, 2G etc.) as their own customers, and are not disadvantaged systemically in any way as compared to their own customers.

Once the TSPs start hosting VNOs, India will see a large number of VNOs emerging and being actively hosted by the TSPs. This will lead to a win-win situation for all.

The TSPs will be able to use excess network capacity optimally. The VNOs will no longer face any hurdle or challenge to access the TSP's networks. Customers will benefit from having larger choice of brands to choose their telecom operator, and also benefit from continued affordable prices and innovative service offerings. The government will benefit from increased revenues through regulatory fees and taxes, since the telecom resources of the country will be monetized more efficiently.

3. Licensing reform for the VNOs (Virtual Network Operators)

Please refer to the introduction of VNOs as per the strategies envisaged in the NTP-2012 for moving towards a Unified License (UL) regime to exploit the benefits of convergence, spectrum, liberalization and facilitate delinking of the licensing of networks from the delivery of services so as to enable the Telecom Service Providers (TSPs) to optimally and efficiently utilize their networks and spectrum by sharing active and passive infrastructure. Another strategy is to facilitate resale at the service level, both wholesale and retail, for example, by introduction of virtual operators.

However as per the NTP-2012,- the Introduction of VNOs will lead to faster penetration of telecom services besides encouraging lower rates and introduction of new & innovative services including machine-to-machine (M2M) communication services. In their opinion, there are many un-served and under-served areas where basic telecom connectivity, internet and broadband services need to be provided. Further, current level of competition in Indian telecom market may get reduced due to possible merger/acquisition (M&A) among NSOs. Therefore, introduction of VNOs will ensure to maintain the level of competition for the benefit of end customers. According to them, the mature Indian telecom market is ripe for entry of VNOs for providing differentiated, value added and customized services for which competition is practically non-existent.

In their opinion, VNOs are likely to invest in less competitive areas (like 'C' class towns / villages) where NSOs have not ventured. This will increase the rural tele-density and broadband penetration in such areas. Once the basic infrastructure using OFC is put in place through National Optical Fibre Network (NOFN) project. Introduction of VNO may help in quick and efficient utilization of the OFC network. Also, VNOs may have ability to sell the services of existing NSO(s) to segments which are beyond the marketing reach of the NSOs. Therefore, VNOs can be an important stakeholder to achieve targets defined in NTP-2012.

In pursuance of the NTP-2012 – the licenses were issued for VNOs as prescribed. But the realities of ground level implementation is not being considered in the licensing guidelines issued by the DoT for the rollout of VNOs services. The details of the issues being faced by the licensee for the rollout of the VNOs services are not in conformity to the intent envisaged and prescribed in the NTP-2012. Thus, the rollout of VNO services is also to be taken care within the policy frame work of the NTP-2018.

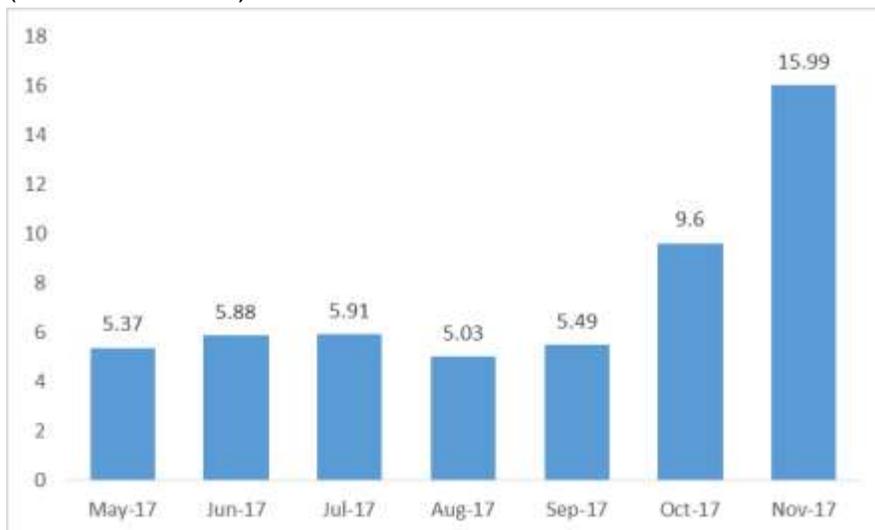
Detailed analysis of the issues being faced by VNOs in the rollout of the services like LRN issue is explained below. The issue of the LRN for the rollout of the services by the VNOs in compliance to the MNP regulation prescribed by TRAI:-

Issuance of Location Routing Number (LRN) to VNOs

The Department Of Telecommunications (DoT) has been issuing Location Routing Numbers (LRNs) to licensed telecom operators in India. All the licensed TSPs, have been allotted LRNs for each of their service areas. These LRNs are critical to ensuring the correct routing of the calls for numbers which have availed Mobile Number Portability facility.

The rising numbers of customers, who have completed MNP clearly shows, that customers are now wanting to retain their numbers – and are easily adapting to the MNP process. The TSPs have also streamlined their process, and now the MNP facility has become easy and convenient to use. Further National MNP is also now possible. Consequently large number of customers are utilizing this feature.

Number of MNP per month (source: TRAI Report) (Millions of MNP)



With the closure of operations of M/s Reliance Communications and M/s Aircel /M/s Dishnet Wireless in several circles – the customers of these operators are also availing MNP facility to move to another operator of their choice.

TRAI has also requested views on the draft “The Telecommunication Mobile Number Portability Per Port Transaction Charge and Dipping Charge (Amendment) Regulations, 2017” from stakeholders.

Considering all above points – it is clear that MNP will become even more widespread and commonplace in India. Proper and correct functioning of MNP facility depends on clear allocation of LRNs to the licensed telecom operators.

With the imminent launch of MVNOs in India, in the next few weeks –LRNs have become more significant.

Globally, and in India also - the MVNOs will attract subscribers through specific, targeted niche tariff and service offerings. Given the high penetration of mobile services in urban India and rapidly increasing penetration in rural India – the MVNOs will necessarily attract customers, who are already subscribers of some other telecom service provider. Those customers will choose to subscribe to the MVNO's service on their existing numbers (i.e port in) only.

This requires assignment of LRNs to the licensed MVNOs, in their circles of operations.

Currently in India – the LRNs are not being issued by DoT to the MVNOs directly. Instead the host operator (licensed TSP) of the MVNO is making a request to DoT to allot or assign LRNs to them (i.e the TSP.) The host operator then permits their MVNOs to use these LRNs for their own purpose.

In this case –the LRN is owned and controlled by the TSP only

- The MVNO is completely dependent on the TSP for using the LRN.
- Further OTHER TSPs (i.e the other telecom operators and MVNOs) in the market, recognize the LRN as belonging to and being assigned to the host TSP, and not the MVNO which is actually using the LRN.

This will lead to several operational and business challenges for the MVNOs. Many of the MVNO's customers will be porting in, to the MVNO from other operators – and hence all calls made to them will necessarily be routed using LRN only.

These challenges are detailed below-

1. **While porting –the donor operator/recipient operator will be unable to distinguish between customers wanting to port from/to a TSP, and those wanting to port from/to one of the TSP'sMVNOs.** The other operators (i.e other than the MVNO and its host TSP) will consider the port request to be from a subscriber from the TSP only – even if the request has come from/request is made to a subscriber of one of the MVNOs hosted by that TSP. This will lead to operational and business challenges during the porting process- and lead to confusion and customer dissatisfaction.

The customers will always view the MVNO and its host TSP as DISTINCT BRANDS only. Further there will be cases of customers wanting to port to/from a TSP to its own MVNO also.

This can be avoided if separate LRN is allotted to the MVNO directly.

Also allotting separate LRNs to MVNOs also allows clear demarcation of traffic between host operator and its MVNOs. This will also ensure correct management of processes related to lawful interception of traffic.

2. The Global practice is to allot separate LRNs for MVNOs, in addition to the allotments made to TSP.

Globally –the LRN has 2 parameters: Service provider (SP) and Network Operator (NO), where SP can be MVNO or TSP, and the NO shall be only host Operator of the MVNO. Hence each MVNO will always have a unique identifier.

In the Indian context, the MVNOs are fully licensed by DoT, and hold Access Service authorization also. Hence MVNOs should also have a separate LRN identifier.

The MNP process of the United Kingdom is very similar to that which is implemented in India. M/s Syniverse (one of the two cleaning houses for MNP in India) has played a key role in implementing this in the UK.

In the UK –each MVNO has its own LRN, and this has led to a free, open industry for MVNOs to thrive. MVNOs are able to provide hassle free MNP port-in/port-out to their subscribers, and also are able to change their host operator easily if required. Ultimately subscribers have benefited from superior service and experience.

3. Dependency on Host Operator for LRN- and challenge when changing host operators.

In some cases, because of various reasons – a MVNO will (during its licensed operating period) change its host operator. In this case, the subscribers of the MVNO will then be able to use the network of another TSP, different from the TSP which was the original host operator of that MVNO.

In the current case, where the LRN is issued only to the host operator and NOT to the MVNO – cases will arise, where the change of host operator by the MVNO will REQUIRE the new host operator of the MVNO to assign a NEW LRN number to the MVNO (which will be from among the LRN numbers assigned to the new host operator by DoT, and which will be different from the LRN number which was being used by the MVNO, when it was with its earlier host operator)

This new LRN number, must then be updated against ALL the ported in customers of this MVNO. This is a tedious exercise and will lead to customer dissatisfaction, routing and call completion errors etc.

In case, LRN is being directly allotted to the MVNOs – then the MVNO can use the same LRN even with the new host operator. In this case, the updation of routing, for the other operators is much simpler and error free. Migrating the subscribers, between the host operators also becomes much simpler.

As explained above - The assignment of LRN to the host operator, instead of the MVNOs –will pose a barrier to the free functioning of the MVNOs.

In light of the above challenges anticipated - we respectfully submit that the current practice of allotting LRNs to TSPs, who then allow MVNOs to use their LRNs is not optimal.

The MVNOs must be allowed to apply directly to DoT and receive LRNs. This will go a long way in ensuring that customers can easily port-in and port-out between MVNOs and TSPs, and between the MVNOs themselves. This will also establish MVNOs as independent, credible operators in the industry – and will ensure that MVNOs are able to operate sustainably and competitively, and do not become too dependent on their host telecom operator

4. Financial Reforms

This is in continuation to the various issues of financial reform, which are the need of the day for the whole telecom industry. These issues were never addressed in the telecom policy, and shall need be taken care in order to create environment for the entire telecom industry to facilitate investments in the sector, and create and facilitate an atmosphere of **“ease of doing business”** in the telecom industry.

The VNOs should not be liable to incur various levies and taxes for the services that it is likely to provide as a reseller of the existing services of the parent NSO.

- Thus, in the imminent reforms, that are envisaged in the new NTP-2018 - on the lines of GST, **the Department of Telecom should prescribe a single fee, for VNOs, instead of multiple fees like license fee on AGR and SUC and other government levies.**
- This will ensure that the service provider doesn't have to incur cost and harassment in dealing with multiple agencies.
- The rationale of providing the VNO license is also, that the VNO will function as a reseller of the NSO. Hence the updated policy should take in to account the cost of acquisition of bulk minutes by the VNO from the NSO. This should be treated as a service reseller price paid to the NSO, and has to be considered as a Pass-through charges to avoid double taxation.