

Infrastructure Sharing : Time for new business models

The Indian Mobile Subscriber base is expected to reach nearly 600 Million by March 2012. This projected growth has led to the entry of more than 10 passive infrastructure sharing companies with tenancy based business models. However, emergence of new technologies and sharing of active infrastructure elements by telecom operators can impact the tenancies. Infrastructure players may need to redefine the tenancy based models to ensure revenue meets expectations, say K. Raman and Gaurav Girotra of Tata Strategic Management Group.

Wireless Communication in India continues to grow in importance. The Indian wireless telecom subscribers grew by ~60% during 2007 – 2008 to reach 260 Million subscribers as on March 2008. The growth is expected to continue with the entry of new 2G operators and the anticipated entry of 3G and WiMAX players.

The demand for cell sites is expected to increase with each operator vying for geographical expansion of their network. In addition the deployment of data services like email, internet and video will require telecom operators to increase cell density on their existing network. Further, with mobile number

portability expected to be implemented shortly, telecom operators are expected to invest in network upgradation to improve the quality of service as a prerequisite to retain their customers. All these factors will potentially create a requirement of ~300,000 cell sites by 2012.

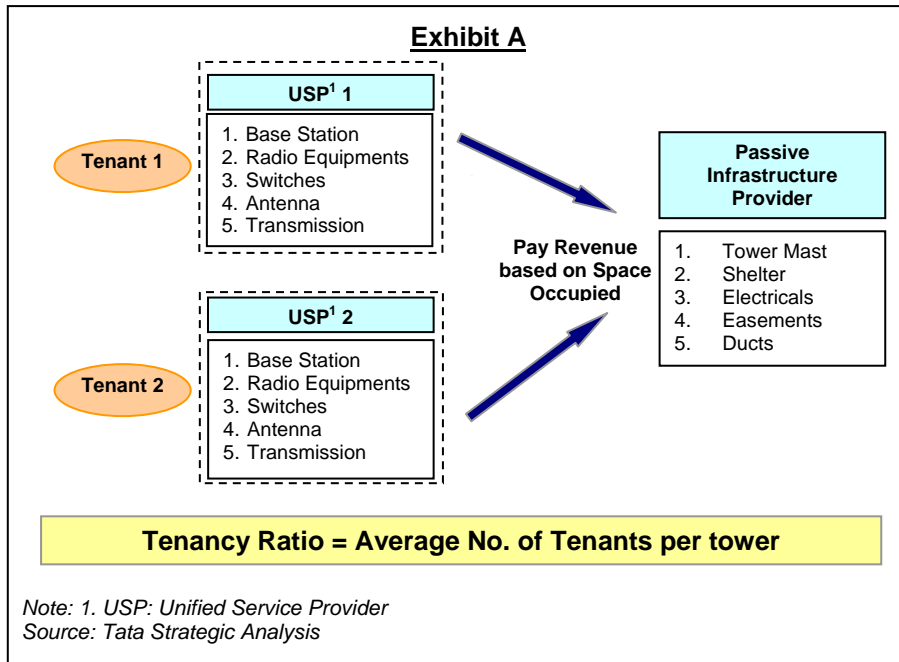
It was this expected growth, the margin pressure for telecom operators and the need for faster rollouts that led to the entry of more than 10 passive infrastructure sharing companies with IP-1 Licenses into the Indian market.

Infrastructure Sharing Players

Independent IP-1 Players	IP-1 Players (Subsidiaries of telecom companies)
American Towers (Planned)	Bharti Infratel Ltd.
Aster Infrastructure Pvt. Ltd.	Reliance Telecom Infrastructure Ltd.
Crown Castle International (Planned)	Wireless TT Info Ltd.
GTL Infrastructure Ltd.	Others (No Separate Tower Company)
Independent Mobile Infrastructure Pvt. Ltd.	Aircel
Indus Infratel Ltd.	BSNL / MTNL
Quipo Telecom Infrastructure Pvt. Ltd.	HFCL
Rail Tel Corporation of India Ltd.	Shyam
Telecom Tower and Infrastructure Ltd. (Essar)	Real Estate Firms owning rooftops (Potential)
Tower Vision India Pvt. Ltd.	Tower Manufacturers (Potential)
TVS Interconnect Systems Ltd.	Transcend Infrastructure Ltd.
XCel Telecom	

Note: The above list is indicative

All these passive infrastructure providers have built their business models based on the traditional tenancy model adopted by players globally as described below in **Exhibit A**.



Since the infrastructure business has high fixed costs and low variable costs, a key strategy of most players has been to maximize use of existing towers through increased tenancies. In India, tenancy levels range between 1.1 and 1.3.

Active Infrastructure Sharing

DoT's approval for telecom operators to share active infrastructure will allow operators to

share key electronic components such as antennas, feeder cables, Radio Access Networks (RAN), transmission systems and backhaul.

Globally, sharing of active infrastructure elements has been in commercial operation by 2G and 3G players. Some of these agreements are mentioned in **Exhibit B**.

Exhibit B

Country	Date	Operations	Details
Australia	August 2004	Hutchison 3G Australia Telstra	Share 3G Radio Access Network
Sweden	March 2001	Tele2 and Telia	As of 2005, they had one of the largest shared 3G networks in the global telecom industry
Sweden	May 2001	Hi3G and Europolitan	Share 3G network covering 70% of the population outside major cities
Spain	October 2003	Telefonica and Yoige	Share infrastructure in urban and rural areas
Spain	November 2006	France Telecom (Orange) & Vodafone	Focus on sharing infrastructure in rural areas with fewer than 25,000 inhabitants
UK	February 2007	Orange and Vodafone	Share Radio access network across the UK
USA	Planned 2008	Sprint Nextel	Plans to share its 3G towers to deploy Wimax

Source: GSMA

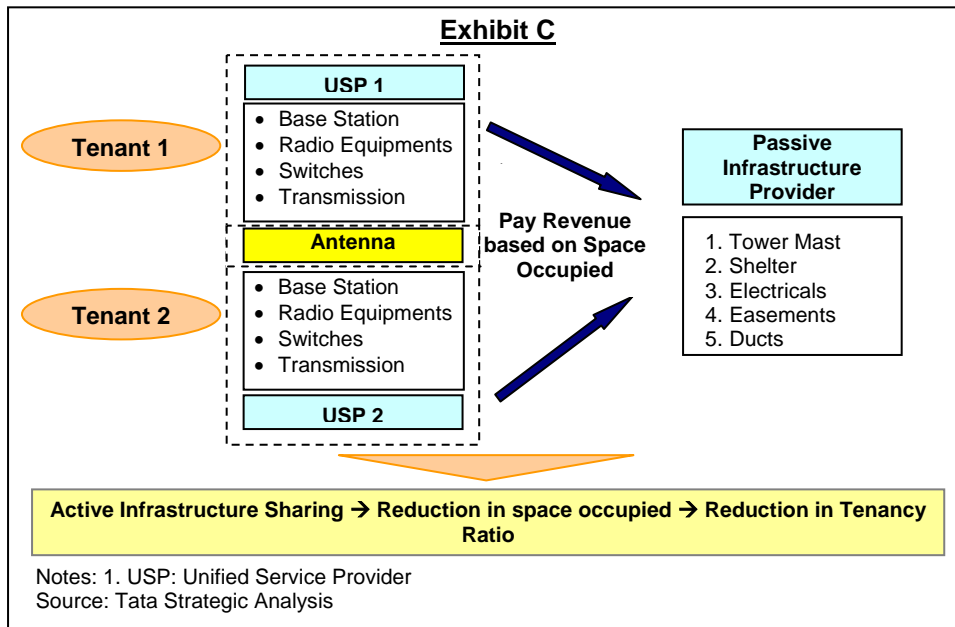
Some of the possible combinations for active infrastructure sharing could be:

Scenarios	Stakeholders					
	2G GSM Host Operator	2G GSM Tenant	2G CDMA Host Operator	2G CDMA Tenant	3G Tenant	WiMAX Tenant
Scenario 1	✓	✓				
Scenario 2	✓	✓ +	✓	✓		
Scenario 3	✓	✓	✓	✓ +	✓	
Scenario 4	✓	✓	✓	✓	✓ +	✓

Currently, this concept is under different stages of evaluation by various telecom operators. Active RAN (Radio Access Network) sharing solutions are being provided by vendors like Nokia Siemens Network (NSN), Ericsson, Huawei, Vanu etc. Dual / Quad port antennas are also available from vendors like Andrews and Kathrein and are under evaluation.

also lead to concerns related to asynchronous network expansion.

- Since active infrastructure sharing is allowed only under UASL license given to telecom operators, it needs to be seen as to how the required trust can be developed between operators sharing their active infrastructure elements in the geographies where they are competing as well.



However challenges will need to be overcome for success of Active Infrastructure Sharing

Sharing of active infrastructure elements poses numerous challenges to telecom operators.

- It needs to be tested and commercially deployed to make sure that the traffic of players is properly managed.
- Whether active infrastructure sharing solutions can share equipments with frequencies ranging from 800 MHz to 2100 MHz seamlessly.
- Going forward, active infrastructure sharing between multiple operators can

Success of Active Infrastructure Sharing could mean reduced tenancies for Passive Infrastructure Sharing Players

However success in Active Infrastructure Sharing could impact the revenues of the Infrastructure Player.

As we see in the **Exhibit C**, the revenue of the active infrastructure provider would drop in proportion to the space occupied by the telecom operator (partial tenancy) leading to reduced tenancy ratio.

This will have an impact on the financials of the passive infrastructure provider.

Exhibit D

Parameter	Base Case	Sensitivity (Tenancy Ratio)	Change in Annual Revenue	Change in EBITDA
Tenancy	2	-15% (1.7)	-8%	-10%
		-20% (1.6)	-14%	-17%

For a player planning to roll out 5,000 towers in the impact of reduced tenancies on the financials are as in **Exhibit D**.

Hence, we see that a reduction in tenancy by even 20% can have a significant impact on the financials of the passive infrastructure player.

Implication for Passive Infrastructure Players

The key incentive for operators to opt for Active Infrastructure Sharing is shared tenancies leading to shared operating expenses. However, passive infrastructure players may still bargain for additional tenancies in this scenario. Hence, the price that may be commanded for partial tenancies would evolve somewhere in between once there is more discussion between operators and passive infrastructure providers.

We feel that even a 25% - 30% success in active infrastructure sharing has the potential to reduce tenancies by 12% - 15%. This would have a negative impact on the business case of passive infrastructure providers and the future valuations. To compensate for the drop in revenue, passive infrastructure players would need to leverage on their skilled manpower and look at alternate offerings beyond tenancy like Active Infrastructure Management, RF and Transmission planning etc.

Clearly it is time for passive infrastructure players to be prepared for newer business models. Firms not prepared for models beyond tenancy could see their revenues not meeting projections leaving the investors a worried lot.

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