Myanmar Telecom Towers Industry

Strengths & Challenges – A Regulatory Perspective

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Agenda

1. Myanmar Overview
2. Myanmar Telecom Privatisation
3. The Results So Far
4. Importance of a Vibrant Telecom Towers Sector
5. Growth of Telecom Towers Industry
6. Key Challenges
7. What’s the Next?

Myanmar Overview

GEOGRAPHY

- Land mass 676,577 km^{2}. (2,090km N-S / 925km E-W)
- Land border – 5,858 km - Bangladesh, India, China, Thailand, Laos
- Coastal line – 2,832 km

POPULATION

- Population – Over 51.49 m
- Ethnic groups – 135
- Seven States and seven Regions
- 70% population in rural area and occupied in agriculture sector

Myanmar Telecom Privatisation – Story So Far

- **Political Reforms (2010/11)**
- **Foreign Investment Law (2012)**
- **Telecommunications Act (2013)**
- **Independent Regulator (By 2015)**
- **Two 15-year licences awarded (2013)**
- **Tower companies licensed (2014)**
- **MPT / KDDI Sumitomo team up (2014)**
- **4th Operator, MyTel launches (2018)**

"Almost 100% Coverage Within Six Years"

"A Mobile First, Digitally Connected Nation"

Myanmar Telecom Privatisation – Story So Far

Adoption of new Telecom Law & Rules	▪ Telecoms Law (Oct 2013) ▪ Five set of rules (Licensing, Interconnection, Competition, Numbering, Spectrum) (2014-16) ▪ “Mobile user registration” instructions to MNO ▪ Guidelines on provision of International Gateway Services
Institutional Reform	▪ Separation of Posts from Telecoms (MPT) ▪ Corporatization of MPT (Ongoing) and currently joint operation with KDDI and Sumitomo (KSGM) from Japan ▪ Independent Regulator to be established (Ongoing) ▪ Creation of Information Technology and Cyber Security Department (ITCS) within MOTC

Myanmar Telecom Privatisation – Story So Far

▪ **Nationwide Telecommunications Licences**	▪ Ooredoo (5 Feb 2014) ▪ Telenor (5 Feb 2014) ▪ Myanmar Posts and Telecom (MPT) (24 Mar 2015) ▪ Telecom International Myanmar (MyTel) (12 Jan 2017)
▪ **4 Category Licensing Regime**	▪ NFS(I), NFS(C), NS and AS

Type of Licence and Licences

Sr.	Type of License	Number of Licensees			Remark
		Local	International	Total	
1.	Nationwide Telecommunications License	2	2	**4**	
2.	Network Facilities Service (Individual) License (NFS-I)	41	23	**64**	
3.	Network Facilities Service (Class) License (NFS-C)	32	20	**52**	
4.	Network Service License (NS)	13	4	**17**	
5.	Application Service License (AS)	23	6	**29**	
Total		**111**	**55**	**166**	

NB: Although the total number of licensees are **166,** some of the companies applied two license each. So, total number of companies are (**148**).

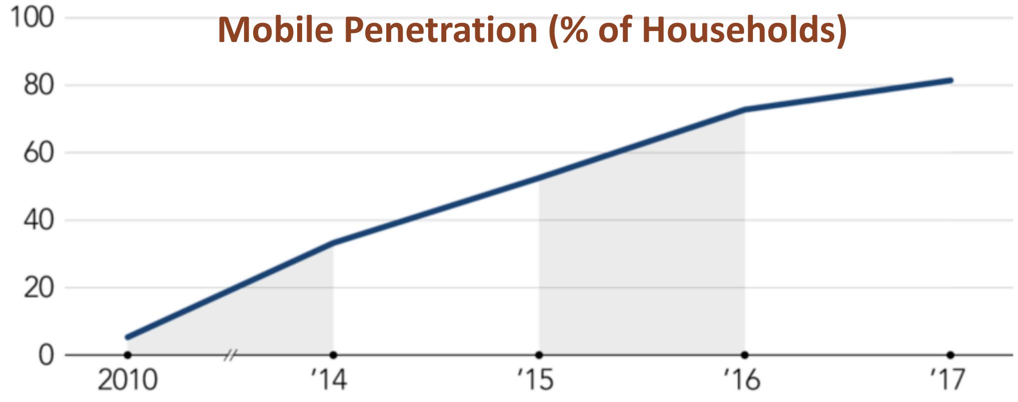
Improvement of Telecom Services and Infrastructure

Indicator	Before Reform	August, 2018
Nationwide Telecom Operator	- MPT	- **4 Operators**
Number of Lines: - Fixed - Mobile - Total	- 0.61 m - 6.09 m - 6.70 m (in 2013)	- **0.55 m** - **52.29 m** - **52.84 m**
Telephone density	- 13% Aprox.	- **102.6 % Aprox. (Sept 2018)**
Internet Users / Penetration	- < 2 m	- **46.82 m (90.93%)**
National Fiber Backbone	- 7,600 km (2013)	- **68,082 km (Oct 2018)**
International Submarine Cable	- SEA-ME-WE-3	- **SEA-ME-WE-3** (2000) - **SEA-ME-WE-5** (2016) - **AAE1**

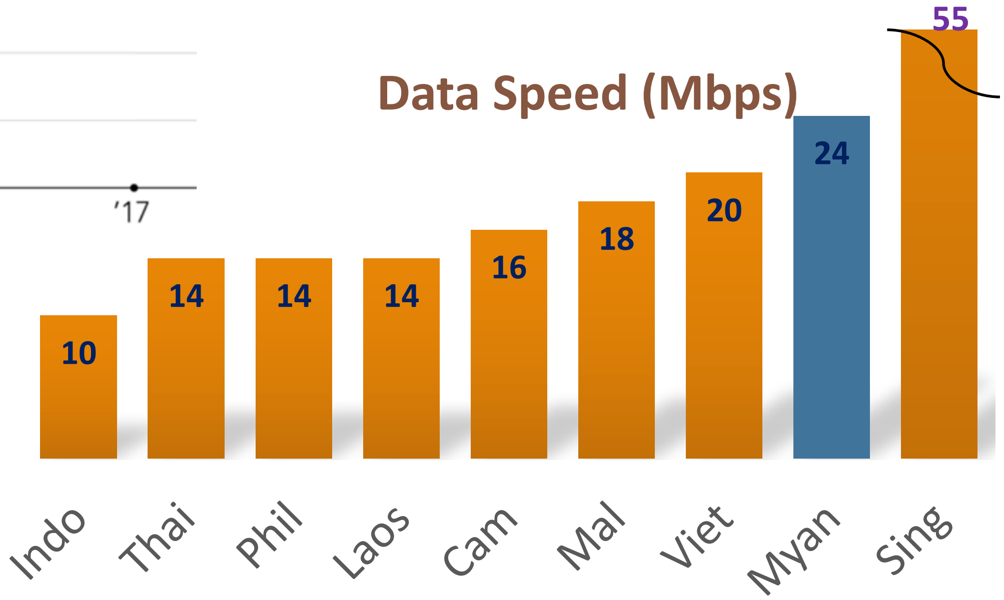
Improvement of Telecom Services and Infrastructure

Indicator	Before Reform	August, 2018
Cross-border Fiber	China (Muse), Thailand (Myawaddy)	**China** - Muse **Thailand** - Myawaddy, Tachilek, Three Pagoda, Mawtaung, Htee Kee, Seikhpu **India** - Tamu **Laos** - Tachileik
International Bandwidth	30 Gbps in 2013	**604.30 Gbps**
International Gateway	1	**13 Nos** (Inc. 4 Operators)
Mobile Sites	Less than 3,000	**More than 19, 000 Sites**
Smartphone penetration		**80% of Total Mobile Handset**
Coverage (Pop. / Geo.)		**90.45% (Pop.) / 57.49% (Geo.)**

Myanmar Telecom Privatisation – The Results So Far



Source: Central Statistical Organization of Myanmar



Source: McKinsey

Importance of a Vibrant Telecom Towers Sector

- **Speed and quality of network coverage was a key objective of the reforms**
- **Understood the importance of independent tower companies and other passive infrastructure players**
- **Have since licensed over 40 telecom tower companies**
- **Regulatory framework insisted on zoning and tower sharing**
- **Telecom network operators depended on co-location**
- **All players needed to be educated on the sector – e.g., local build regulations, build permit processes, assessing land title**
- **Support capital raising initiatives by working with the Central Bank and MIC**
- **More investment is needed to support a data-hungry population**

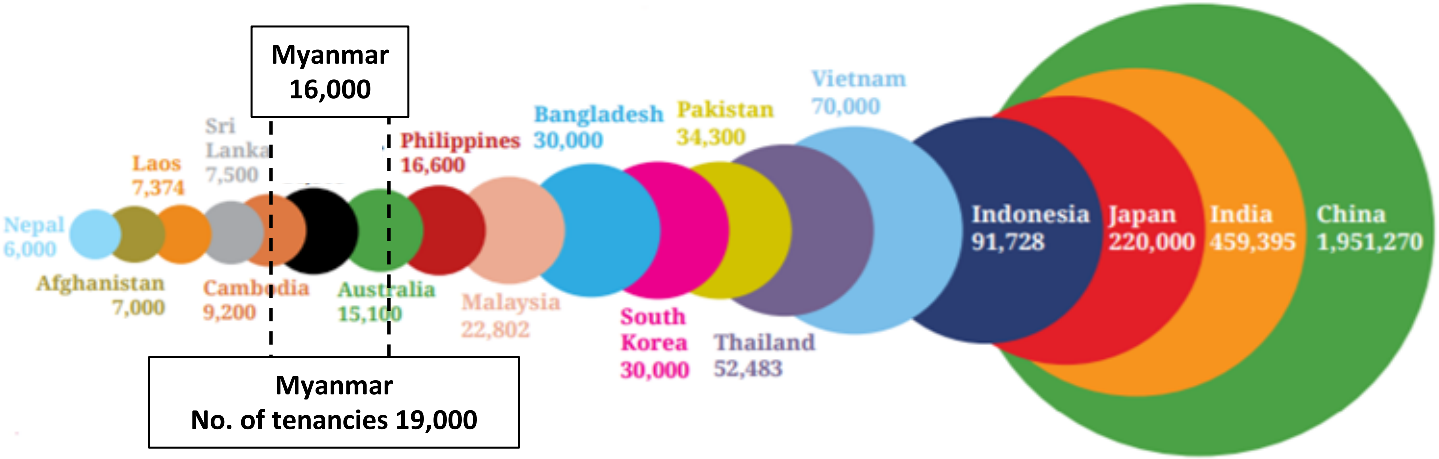
Myanmar Telecom Towers Sector – Conducive Market

Towerco contracts with telcos have been quite balanced and commercial

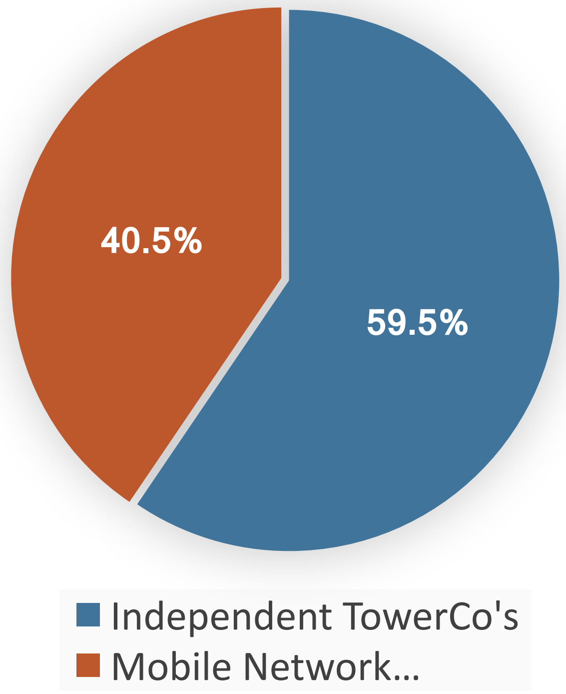
- Tower business model is similar to U.S. – USD based rents; use of inflation escalator; non-cancellable contracts

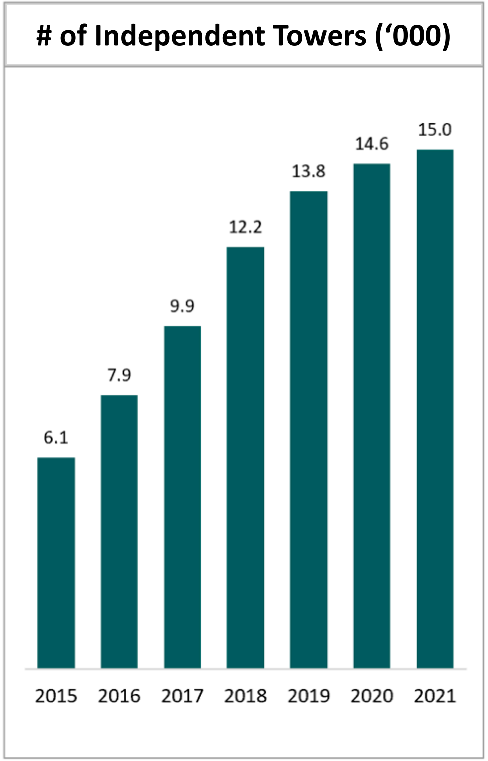
Mobile operators favour this model as it allows for faster network coverage

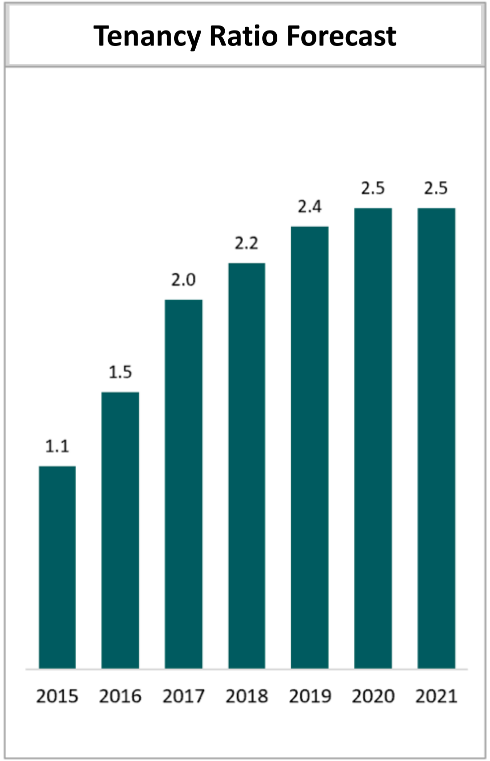
Restrictive Zoning and Permitting – regulations benefit tower operators



Myanmar Telecom Towers Sector – The Results So Far







Source: Company Filings, Analysys Mason (2016)
Note: forecasts based on independent tower companies only (excludes MNO-owned captive towers)

Telecom Towers Sector – Key Challenges in Myanmar

Land title on tower sites

Power supply – Cost effectiveness vs. Community Issues

Installation in more remote places (e.g., ethnic issues)

Consequence of high data usage

- High power consumption
- More towers needed

Need for more efficient capital and investment

The need to balance industry interests with community and consumer interests

Greater public scrutiny – Lack of public education/awareness on the towers industry

Telecom Towers Sector – What's the Next?

Universal Service Obligations Fund

New spectrum allocations – further move towards mobile data and 5G

MPT to be fully corporatised

Fully independent telecom regulator – Myanmar Telecom Commission

Greater community engagement

Thank You Very Much.

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