Towerco data management: improving the relationship with MNOs

Caroline Gabriel
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Executive summary

Mobile network operators (MNOs) are increasingly moving away from owning cell towers and are relying on neutral host towercos. However, towercos’ approaches to data management are rarely well-aligned to those of MNOs, thereby limiting the business opportunities for both parties. Towercos must therefore make a clear case for a multi-layered data analytics strategy, and work on common frameworks with MNOs.

Many MNOs have sophisticated data strategies, but towercos are still largely reliant on Excel to analyse their sites and power and fibre assets. As towercos take on more assets and reduce costs through automation and predictive maintenance, they will need to define new data collection and management strategies. They should work with MNOs on common frameworks so that both sides can derive a greater value from their relationship.

Figure 1: Incompatible approaches to data reduce the effectiveness of MNO–towerco partnerships

KEY RECOMMENDATIONS

1. Towercos need to invest in an integrated data strategy in order to extend their business models.
2. Towercos should adopt a multi-layered approach with some near-term quick wins, as well as longer-term roadmaps towards solutions such as AI.
3. MNOs and towercos should work together on common data management approaches to increase the value of the relationship for both sides.
Recommendations

1. Towercos need to invest in an integrated data strategy in order to extend their business models to include new assets and higher-value services.

The towerco business model is under pressure because of MNO consolidation, which has resulted in a decrease in the number of clients but an increase in their negotiating power. This means that towercos must negotiate deals more effectively, and extend their business models to include new revenue streams such as small cells. They must replace their Excel-based approach with a fully integrated system of data collection and analytics.

2. Towercos should adopt a multi-layered approach with some near-term quick wins, as well as longer-term roadmaps towards solutions such as AI.

A few towercos may choose to take a ‘big bang’ approach, but most will devise a strategy that delivers some quick wins first due to concerns about IT spending and ROI. A typical progression would be first to improve the data collection by replacing manual processes with automated sensor-based systems, then integrate all the data into a common repository, apply analytics and finally, add predictive visits with capabilities that are supported by AI.

3. MNOs and towercos should work together on common data management approaches to increase the value of the relationship for both sides.

MNOs are challenged by towercos’ immature data systems. It is hard for them to gain precise data about the sites that they are using if they are relying on neutral hosts, and this can limit the effectiveness of their own RF planning processes. MNOs and towercos must be able to share their respective data seamlessly, within the limits of confidentiality, so that both parties can make better decisions, thereby improving the quality of the whole network.
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**Challenge: towercos’ out-dated data management systems are limiting their potential for future success**

Towercos have not invested heavily in data collection and analytics technologies. Indeed, most of them still mainly use Excel to track assets, and many lack complete information regarding their sites. Using data to automate processes, value assets accurately and plan proactively will become critical as towercos start to extend their business models to include city networks, edge computing, fibre and other elements.

Analysys Mason conducted a survey of 48 towercos and MNO tower management units in May–June 2019. According to this, the top three objectives for the coming 3–5 years are as follows.

- To reduce site and maintenance costs, especially by reducing the number of site visits (towercos’ biggest operating cost).
- To manage increasingly large numbers of assets including small cells, fibre and edge nodes.
- To improve the ability to track assets and apply intelligence to data in order to support better business decisions.

It will be very difficult to meet these objectives without the ability to track data about each site in detail. A lack of data intelligence will affect towercos’ MNO customers too, since the MNOs will know less about their physical sites than about their active equipment, thereby limiting their ability to plan and optimise network performance in an integrated way.

![Figure 2: Top three towerco asset management objectives (the percentage citing each as a top-three objective is indicated)](source: Analysys Mason)

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1 According to Analysys Mason’s survey of 48 towercos and MNO tower management units conducted in May and June 2019.
Solution: towercos need to invest in an integrated data strategy in order to extend their business models to include new assets and higher-value services

Spending restrictions are the main reason why most towercos are still relying on outdated data collection and analysis techniques; other areas of investment have typically taken priority.

However, towerco management units are increasingly recognising that their business model is changing from that of a pure real estate business (‘concrete and steel’) to something more complex. As MNOs become consolidated, towercos must be armed with deeper knowledge in order to negotiate effectively with these stronger clients. Towercos will also be pressurised to add new revenue streams.

Towercos are expanding into small cells or edge computing, and they are adding more value-added services including uptime guarantees for sites and power. These new business opportunities will rely heavily on new data systems. Towercos will need to scale up their systems so that they are able to track up to 100 times more assets over the next 5 years. They will need information about each site that is much more accurate and in-depth before they are able to apply service level agreements.

Currently, much of the basic data in towercos’ spreadsheets, such as the height of the tower or the number of antennas on it, may be wrong. Towercos need to capture new opportunities will help to make a more compelling case for investing in systems which collect data in a granular, automated way and then integrate it into a common repository in order to apply deep analytics.

Figure 3: Key drivers and barriers to investing in data management systems for towercos (the percentage citing each as a top-three objective is indicated)¹

<table>
<thead>
<tr>
<th>Top 5 barriers</th>
<th>Top 5 drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Other spending priorities, 67%</td>
<td>1. Reduce site costs, 72%</td>
</tr>
<tr>
<td>2. Immature solutions, 52%</td>
<td>2. Improve MNO negotiating position, 63%</td>
</tr>
<tr>
<td>3. Unproven ROI, 48%</td>
<td>3. Predictive analytics, 54%</td>
</tr>
<tr>
<td>4. Risk of disruption, 21%</td>
<td>4. Manage complex assets, 52%</td>
</tr>
<tr>
<td>5. Too few case studies, 18%</td>
<td>5. Improve M&amp;A value, 35%</td>
</tr>
</tbody>
</table>

¹ According to Analysys Mason’s survey of 48 towercos and MNO tower management units conducted in May and June 2019.
Solution: towercos should adopt a multi-layered approach with some near-term quick wins, as well as longer-term roadmaps towards solutions such as AI

Towercos are not generally unaware of the benefits of a data management strategy, but there is a large gap between their aspirations and reality.

In an extreme example, two of the survey respondents admitted only knowing the precise location of 35% of their sites, but they were keen to adopt AI-enabled analytics. Bridging these two extremes in organisations that are generally conservative about spending and unsure about ROI requires careful planning. A few towercos may decide to leapfrog their competitors, and even MNOs, by taking a ‘big bang’ approach, but it will be more practical for most to adopt a step-by-step strategy.

Towercos should first identify some quick wins. These are processes that provide significant short-term ROI, in order to instil confidence in management, and meet at least a few objectives. They can then build a richer, multi-layered architecture on top.

The first step for the majority of towercos should be to overhaul their data collection techniques since so much basic information is incomplete and inaccurate. There are now many mechanisms through which towercos can automate most of the processes that are currently carried out through site visits. Once the data itself is of higher quality, towercos must integrate it all into a rich repository; they will then be better placed to adopt advanced analytics over time, including machine learning and augmented reality (for instance, a ‘digital twin’ of a tower, which can be used to manage the physical asset from the cloud).

Figure 4: The typical process through which towercos can transform their data systems

Source: Analysys Mason
Solution: MNOs and towercos should work together on common data management approaches to increase the value of the relationship for both sides

MNOs are disadvantaged if their neutral host partners are unable fully to understand their sites and make strong business decisions.

MNOs’ superior data platforms may give them an upper hand when negotiating with towercos, but that benefit is outweighed by the risk of making network plans and decisions based on an imperfect understanding of the physical assets that support the MNOs’ base stations. It is common, for instance, for MNOs’ radio engineers to receive site plans from a towerco, in which many sites are apparently located in the sea.

Ideally, an MNO should know as much about sites, power and fibre when they have a neutral host partner as when they own those assets themselves. If not, they will be challenged when they start to densify their network plans for 5G, because they will not fully understand the most efficient or productive locations, nor the places where they most need to invest in new resources.

It is possible for MNOs and their towerco partners to share their very different data sets, even within the limits set by confidentiality and competitive intelligence, so that a holistic plan can be made to build, maintain and expand a network. This is becoming even more business-critical as many towercos move to a ‘build-to-suit’ model in which they deploy sites to meet a certain MNO’s needs. This customised approach has high value for both, but only if they are exchanging information on a common basis.

Figure 5: The holistic view of the mobile network provided through combined MNO and towerco data sets

Source: Analysys Mason
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About the author

Caroline Gabriel (Principal Analyst) leads Analysys Mason’s wireless research. She contributes to our Next-Generation Wireless Networks, Operator Investment Strategies and Spectrum research programmes and works directly with our research clients to advise them on wireless network trends and market developments. She has been engaged in technology analysis, research and consulting for 30 years, and has focused entirely on mobile and wireless since 2002.
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- IoT and M2M Services
- IoT Platforms and Technology

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- Managed Service Provider Strategies
- Cyber Security

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- Middle East and Africa
- European Core Forecasts
- European Telecoms Market Matrix
- European Country Reports

DataHub
- ~2500 forecast and 250+ historical metrics
- Regional results and worldwide totals
- Operator historical data

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[Diagram of RESEARCH PORTFOLIO with sections for Data Hub, Metrics Covering 80+ Countries and 540+ Operators]

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