

Several well-known mobile industry trends have driven a steady rise in the development of network sharing deals among operators over the past 20 years. These include the rising importance of mobile broadband coverage and adoption, the increasing costs of network deployment, and the focus on sustainability concerns and creation of green, energy-efficient networks.

These same drivers can be claimed as contributing to the rationale for single wholesale network (SWN) mandates. While SWNs are much less common, there have been examples of such arrangements in Mexico and Rwanda, and most recently a high-profile plan in Malaysia. However, network sharing is fundamentally different to SWNs operationally and, importantly, in terms of outcomes.

Analysis

Network sharing: voluntary and on the rise

Network sharing agreements are deals between operators to leverage common network assets in order to reduce costs, expand coverage and improve quality. While not a new phenomenon, the lofty goals – and success in delivering on them – have driven a rise in use over the past 20 years.

Network sharing comes in different flavours: national roaming, where operators build coverage in parts of a country, setting out wholesale rates that apply when customers of one operator use the network of the other; passive sharing, where competing operators leverage common passive network elements such as towers; and sharing of active network elements, with the two most common forms being multi-operator RAN (sharing of RAN gear, with different spectrum) and multi-operator core network (sharing RAN and spectrum assets). Despite technical differences between these various arrangements, they all have one thing in common: they are voluntary.

Single wholesale networks: mandated and less common

SWNs are generally defined as government-initiated network monopolies, compelling operators to rely on SWN-delivered wholesale services as they serve and compete for customers.

Like network sharing arrangements, SWNs often purport a rationale based on reducing both network capex requirements and end-user service costs (driving uptake in the process). Unlike sharing agreements though, SWNs are mandated – they are not voluntary and do not give operators the flexibility to determine the best arrangement for sharing. SWNs are also much less common than sharing agreements. Malaysia’s decision to put a 5G SWN in place is a recent example. Other than attempts in Mexico and Rwanda, there are few others. Perhaps the biggest point of divergence between network sharing and SWNs is in terms of outcomes.

Network sharing versus SWN: the implications

The main theoretical benefits of network sharing and SWN models have been well discussed: network cost efficiencies to support

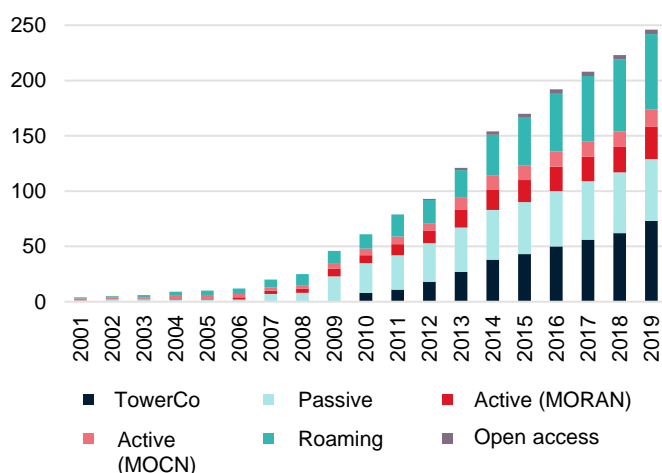
improved end-user outcomes in terms of lower prices and better coverage, alongside improved operator margins. Reflecting the non-market-based approach taken by SWNs, their theoretical downsides have also been well detailed: insufficient investment allocation, lengthy commercial negotiations with operators, reduced innovation, complex wholesale price setting and a slower transition to new technology generations.

Theories aside, 2021 has provided studies that support these claims. While Malaysia moves forward with its SWN plan, it is telling that no operators have signed on. This should not be particularly surprising, as a DT Economics [report](#) from August (commissioned by the GSMA and supported by GSMA Intelligence) notes that “national SWNs have a poor track record of successful implementation,” including Mexico’s effort filing for bankruptcy protection earlier in 2021.

The magnitude of sharing deals (compared to the small number of SWNs) allows for an empirical study of their outcomes. Oxford University and GSMA Intelligence economists attempted this in a [paper](#) from September. It found that “network sharing generated significant benefits for operators and consumers, including lower prices and improved network coverage and quality. This was driven by cost reductions, higher returns on investment and increased competition.”

Source: Coleago, GSMA Intelligence

Network sharing: announced deals by type of sharing (cumulative)



Implications

Mobile ecosystem

- **5G sharing** – Operators should consider the case for network sharing in the context of 5G rollouts. With the potential cost burden of rolling out 5G to keep pace with increasing demand for data, we expect more network sharing arrangements in the near term as part of a longer term uptick. Evidence suggests these agreements can help accelerate deployment, keep costs in check, and drive technology adoption.
- **Wholesale delays** – In markets where a SWN is either under development or in the planning phases, operators and vendors should plan for launch challenges and delays. Experience to date suggests SWNs generate industry pushback and rollout delays ensue. Ecosystem players in those markets need to expect those delays and plan their own market strategies accordingly.
- **SWN and differentiation** – In the face of SWN deployments, operators need to fully understand their options for differentiating services. Will they be able to invest in their own core network assets? Will they be able to leverage SWN assets to offer advanced services – such as edge or network slicing – to differentiate? Are service pricing, brand and retail presence the only options for differentiation? Unlike network sharing agreements, where the terms are well understood, the options available under a SWN may be less transparent – but critical for any operator looking to compete successfully.
- **Ecosystem-led innovation** – Beyond added capacity, faster speeds and lower latencies, 5G was designed to support innovative new services that leverage these capabilities and more (e.g. slicing, massive IoT and edge computing). Where SWNs limit the number of network-based competitors in a market, economics tells us that the motivation to deploy innovative network capabilities will be limited. Limited network innovation will in turn affect the rollout of innovative services.

Regulators and governments

- **Sharing is voluntary** – There are three key differences between network sharing and SWN arrangements. Sharing is voluntary; SWNs are not. Sharing has proven to be beneficial for operators and consumers; SWNs have not. Sharing is increasingly commonplace; SWNs are much less common. To this end, priority should be placed on sharing which remains voluntary. Market data tells us that the alternative could negatively impact investment incentives as mobile operators wait for others to invest first.
- **Sharing as an alternative to SWN** – Policymakers considering SWNs should also consider the fact that active sharing can deliver similar levels of coverage while maintaining a greater degree of service competition. Both economic theory and evidence show there are competition risks associated with having a single provider, in terms of higher prices and/or lower service quality. If voluntary network sharing can deliver improved outcomes, its promotion needs to be seriously considered.
- **The innovation imperative** – As signalled by [Frontier Economics](#) in 2018, it is important to recognise that any drive for innovation will likely be limited with a SWN. Regulated monopolies cannot be expected to deliver the same level of innovation and investment that would result from competing networks. Singapore is an example of a market where regulators acknowledge this, focusing on the regulatory principle of the promotion of facilities-based competition, which has “benefitted consumers by providing them with more choices of innovative services at lower prices” ([Infocomm Media Development Authority](#)).
- **Investment versus uncertainty** – Market uncertainties introduced by a SWN would be expected to impact operator investments. Consider the case of Malaysia, where 4G network investments that would support 5G services might be moot in the face of a government-run 5G network. If those investments have already taken place, plans for a SWN would naturally impact their financial valuations. Reuters has [reported](#) claims that the Malaysian SWN could remove more than \$10 billion of market value from the country’s operators.

Related reading

[To share or not to share? The impact of mobile network sharing for consumers and operators](#)

[Safeguarding the road to 5G in Malaysia](#)

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