Zain Saudi Arabia is proving to be a trailblazer with its 5G roll-out, which commenced in October 2019 and now extends to over 30 cities across the country. Zain's 5G launch included the roll-out of a 5G fixed-wireless access proposition that has already gained significant traction in the market and for which the operator has acquired several tens of thousands of subscribers. Zain's ARPU for 5G solutions is around USD90 compared to USD19 for non-5G services. This article examines the reasons for Zain Saudi Arabia's success and the implications for other operators.

Zain's 5G fixed-wireless access roll-out is world-leading

Zain's 5G roll-out already extends across all regions of Saudi Arabia, which reflects the extremely rapid nature of the deployment. This progress has enabled Zain to quickly build its subscriber base and begin to monetise the 5G deployment. Zain has also been able to defray the costs of rolling out 5G mobile services by using 5G fixed-wireless access (offered over the same network grid as its 5G mobile services) as a new revenue stream.

Deploying 5G fixed-wireless access is an efficient way to maximise network capacity

The cellular data traffic in Saudi Arabia has traditionally been very high; Analysys Mason estimates that it was around 24GB per capita per month in 2019. This is one of the highest figures in the world. Importantly, Zain's 5G fixed-wireless access roll-out provides increased scope for the operator to deal with further growth in traffic levels. Not only does 5G NR deliver better spectral efficiency than 4G, but 5G fixed-wireless access CPE can deliver better spectral efficiency than handsets. This is because it is easier to support higher-order MIMO in fixed-wireless CPE than in handsets. High-quality CPE offers performance gains thanks to the incorporation of four or eight receivers. In contrast, the use of lower-quality CPE has the potential to reduce network capacity by more than 30%. Zain is using high-quality 5G fixed-wireless CPE that supports the use of 100MHz of spectrum on both the downlink and uplink.

Offering 5G fixed-wireless access provides operators with new opportunities in the consumer market

Zain has gained access to new opportunities in the retail market following its 5G fixed-wireless launch. The impressive capacity that 5G offers has allowed Zain to launch fixed-wireless tariffs with unlimited data allowances, as well as cheaper capped options. Furthermore, the 5G fixed-wireless access roll-out has enabled the operator to meet its stated objective of becoming a converged provider because 5G mobile and 5G fixed-wireless access can be offered in the same areas. Indeed, Zain has launched converged fixed–mobile bundles that allow users to take more than one mobile SIM in order to cater for multiple family members. Fixed–mobile bundles can attract subscribers that are currently relying solely on handset plans for their data needs, thereby driving fixed broadband revenue growth for Zain. There is still significant potential to attract subscribers in this

way because fixed broadband household penetration in Saudi Arabia was only 33% at the end of 2Q 2019, according to figures from the regulator (the Communications and Information Technology Commission (CITC)).

Zain's 5G fixed-wireless access offers high speeds; these have the potential to be competitive in areas where FTTP is available. There is also a significant opportunity for Zain to deploy 5G fixed-wireless access in areas that fibre does not or cannot economically cover; FTTP coverage in Saudi Arabia was still less than 50% at the end of 2019 according to Analysys Mason estimates.

As time progresses, 5G fixed-wireless access operators can differentiate their packages by introducing the speed-based pricing that is typically seen in wireline broadband offers. Operators can use accurate resource assessments and AI-driven software solutions to provide data on factors such as network load, building height and beam levels. This data can then be used to develop a rich set of retail offers.

In the future, it will be important for Zain to maintain satisfaction levels and proactively reduce churn among its growing 5G fixed-wireless access subscriber base. AI-driven software solutions could also be useful in this respect because they can help Zain to identify the location of poorly performing CPE, as well as any network related issues. Such software solutions can also help to improve the end-user experience by recommending a switch to outdoor CPE or an expansion of network capacity in a particular area, for example.

Self-installation and rapid service provisioning have accelerated the growth in fixed-wireless access take-up during the pandemic

The ability to connect subscribers quickly and in a hassle-free way is proving to be important during the COVID-19 pandemic because households have an urgent need to be connected (for example, in order to work from home). Some fixed-wireless operators have seen massive growth in net additions during the pandemic; for example, Globe Telecom in the Philippines reported that its quarterly fixed-wireless broadband net additions increased by 445% year-on-year in 2Q 2020. AI-driven software solutions enable service provisioning within a single day and can improve subscribers' connection experiences because they can be closely integrated with operators' own provisioning and management workflow systems.

The COVID-19 pandemic has also highlighted the advantages of self-installable 5G fixed-wireless access CPE such as that provided by Zain in Saudi Arabia); it has been difficult for engineers to enter subscribers' premises to perform a fibre installation in some countries during the pandemic. AI-driven software solutions can play an important role in enabling 5G fixed-wireless access self-installation because they can pre-emptively check network load and capacity, therefore removing the need for an engineer to visit to verify the service level that a customer would be able to receive.

Conclusions

Zain Saudi Arabia's 5G fixed-wireless access roll-out has been successful and has the potential to be replicated elsewhere. The key driver of effective 5G fixed-wireless access deployments is the use of technology to develop more-sophisticated and richer retail offers, backed up by high-performance CPE and rapid, accurate service provisioning.

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