

## CASE STUDY Rwanda

The Rwandan government, in a joint venture with the South Korean operator Korea Telecom (KT), has been building a new LTE network, which will be allocated 800 MHz and 1800 MHz spectrum and will be available for access by retail providers of LTE-based services.

KT will control the management of the firm with an exclusive licence for 25 years and the government would provide administrative support.

Under the terms of the contract, KT Corp would invest USD140 million, while the government's 25-year-term equity investment will comprise the provision of access to its national fibre-optic networks and spectrum.

Construction of the network would begin by the end of 2014 and targets for the network included access by 95% of the population by 2017 (with broadband penetration rate of at least 40%) and universal access by 2020.

The rationale for a national wholesale network was that it should enhance broadband coverage and speed. The Government seemed to believe a national network would allow Rwanda to achieve affordability and adoption of broadband by reducing costs to end users and supporting innovative forces that drive increased usage through better content and applications. It was also suggested that a national network promote availability of broadband services especially in the rural and remote areas.

Suk-Chae Lee, former CEO and Chairman of KT, pointed out that developing countries should take advantage of broadband because they were not impeded by legacy industries and suggested that the way to finance this is through a public-private partnership model as they are doing in Rwanda.<sup>1</sup>

A wholesale wireless network operator model has been considered in several countries. However, to date, only been in Rwanda has there been any actual implementation of the model of which one was aware.

Rwanda is a very small country and it is relatively early days in the development and operation of this single network model.<sup>2</sup>

The example of Rwanda in which an OAWN has been launched as a joint venture between the government and a foreign operator, Korea Telecom, has been said to be inapplicable to South Africa.

In Rwanda, government or even one individual is able to take and enforce decisions and oblige existing operators to go along in a top down, autocratic way that was "inconceivable in South Africa" given its legal and other institutions and the influence of major operators.<sup>3</sup>

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<sup>1</sup> Frontier Economics Ltd, London. Sep 2014. Assessing the case for Single Wholesale Networks in mobile communications. A report prepared for the GSMA. See par 2.3.1 (p 21), and Annex 2 (Summary of existing SWN proposals) Rwanda, pp 139–140.

<sup>2</sup> Webb Henderson, 7 Sep 2015. "Rural solution options for governments in emerging markets to increase broadband coverage in unserved and underserved rural areas." Malcolm Webb.

<sup>3</sup> "Can open access wholesale-only wireless networks be viable?" *BMI-T Technowledge White Paper*. Dr Martyn Roetter, Oct 2015.

The joint-venture company, initially named Olleh Rwanda Networks, changed its name to KT Rwanda Networks in 2016.<sup>4</sup>

The low adoption of the 4G LTE high speed network in Rwanda has persuaded KT Rwanda Networks to look outside the borders of the country.

Reportedly, KT has had a difficult time selling its flagship product 4G LTE to Rwandans, with many apparently preferring to stick with 3G Internet despite the speed edge 4G has over other products.

The low adoption of 4G LTE was largely attributed to the fact that the product entered the Rwandan market at a high price, which quickly drew a market line, showing that consumers preferred affordable Internet to high speed, a factor which has come to shape people's perception of 4G as an expensive option, a reputation KT still struggles to change.

By February 2015, 4G LTE had only 1,000 subscribers, according to data from the Rwanda Utilities Regulatory Authority.

At the height of its frustrations with the slow adoption, the company has faulted government, which is a partner in KT after the two signed a 25-year agreement.

Although the 4G product was received with a lot of pomp and glamour, 3G still dominated the market, three years down the road.

KT banked on the three telecoms operating in the market to drive 4G.

The market leader in Rwanda<sup>5</sup> has its own 3G product to sell to its customers. Although 4G is one of the data options on its bundles, when customers opt for it, the signal keeps fluctuating back to 3G, which the company attributed to the fact that 3G signal is still stronger than KT's 4G.

No other player is allowed to invest in 4G-enabled technologies apart from KT, which has in the past caused unease among some players who even called for policy review.

Retailers have said they earn almost nothing from some 4G packages. Others said what they charge is not very high, and that the package price reflects the price at which the wholesaler sells the product to them.

In 2016, the wholesaler initiated a 30 per cent reduction. But 4G was still seen as expensive compared with other options like 3G, which was also competitive in speed.<sup>6</sup>

The GSMA<sup>7</sup> has stated that the goals are often ambitious when governments propose establishing a single wholesale network (SWN) or a wholesale open access network (WOAN) instead of relying upon competing mobile networks to deliver mobile broadband services in their country.<sup>8</sup>

Rwanda's LTE-based network was launched as planned in late 2014 in the capital Kigali.

The GSMA states, however, that launching a network is a mere first step, and that the government is still unlikely to achieve coverage, price and competition goals:

<sup>4</sup> *The New Times*, 22 Jul 2016. "Why Olleh Rwanda Networks rebranded to KT Rwanda Networks." A Tashobya.

<sup>5</sup> MTN.

<sup>6</sup> *The EastAfrican*, 10 Sep 2016. "Korea Telecom to spread 4G brand beyond Rwanda border." Moses K Gahigi.

<sup>7</sup> GSM Association, the international association which represents the interests of mobile operators worldwide.

<sup>8</sup> GSMA. "Wholesale Open Access Networks" (July 2017).

As of July 2016, the network was available in 25 districts (out of 30), but with population coverage estimated at only around 30 percent. The coverage progress in mid-2017 suggested that it was unlikely that the original coverage target of 95 percent would be achieved by the end of 2017.

The take-up appears to be limited so far, a failure attributed to the cost of the services.

There was reportedly no sign mobile broadband services have become more affordable because of the government intervention, according to data from the regulator's website. This contrasts with the cost of voice services, which has fallen over the same period.

Commercial negotiations set the wholesale prices. They are reviewed twice a year. Over the lifetime of the network there have been several significant reductions in wholesale prices. But they have not translated into lower retail prices on a consistent basis.

In order to retail the wholesale services they buy from KT, the MNOs<sup>9</sup> are commercially inclined (but not obliged) to promote 4G services, but, because no 4G spectrum will be allocated to the MNOs if they wish to provide 4G, it must be provided through KT's network.

Although KT's 4G services are promoted via MNOs' retail activities, the perception in the market is that MNOs themselves will be responsible in the eyes of consumers for any issues with coverage and quality of 4G services.<sup>10</sup>

Few benefits have flowed to consumers in Rwanda, at least not yet. Since the open access 4G network was launched late in 2014, the price of mobile broadband service has stayed flat, the three major mobile operators all charging a similar price.

That is not surprising. To the extent the three companies re-sell service on the open access 4G network, they all have the same wholesale cost. With only three players, the mobile market is very concentrated, which means it's unlikely that they will engage in a profit-killing, price-led race to the bottom.<sup>11</sup>

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<sup>9</sup> Mobile network operators.

<sup>10</sup> GSMA. Wholesale Open Access Networks (July 2017). "Rwanda: The network is live, but can't live up to expectations."

<sup>11</sup> Steve Blum's blog, Tellus Venture Associates (Management, planning and business development consulting for community broadband). 2 Sep 2017. "Open access does not guarantee open broadband competition."