Tanzania 700 MHz Spectrum Auction

The Tanzania Communications Regulatory Authority recently concluded a successful spectrum auction which reflected all the key elements of international best practice. The TCRA was advised by Graham Friend of Coleago Consulting and in this paper, Graham highlights the key factors that contributed to the success of the Tanzanian Auction

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Best practice insights from the Tanzania 700 MHz spectrum auction

Graham Friend of Coleago Consulting advised the TCRA on the design of their spectrum assignment process

Introduction

The Tanzania Communications Regulatory Authority (TCRA) recently concluded a successful auction for 700 MHz spectrum. The auction resulted in all the spectrum assigned, more than US$ 20 million raised, competition increased, and coverage obligations imposed to promote rural broadband coverage. The success of the Tanzanian auction provides a stark contrast to other spectrum auctions across Africa which have all resulted in partial or complete failure. In this paper, Graham Friend, who advised the TCRA throughout the process, highlights the factors that contributed to the success of the auction and what other regulators can learn from the experience.

Focus on long term policy objectives rather than short term gains

The Tanzanian Government adopted a long-term view in assigning spectrum

From the outset the design of the spectrum assignment process was focused on achieving the TCRA's policy objectives which were, in turn, shaped by the country's National Broadband Plan. The most relevant objectives from the design perspective were increasing mobile broadband coverage, maintaining and enhancing competition and promoting investment and innovation in the sector. There was also a requirement to ensure that reasonable revenues were generated from the assignment of a scarce natural resource. As raising revenues and promoting investment in increased coverage and promoting competition are not necessarily complementary the Government of Tanzania took the enlightened and refreshing view that realising long term economic benefits from increased mobile broadband far outweighed the benefits of smaller, short term auction proceeds. The process also sought to reflect the TCRA's values of fairness, transparency and efficiency.

Follow a robust process

The successful spectrum auction was the result of following a robust process that was clearly articulated at the outset of the project. The process followed in Tanzania is reflected in the Exhibit below.

Exhibit 1:   Assignment Process
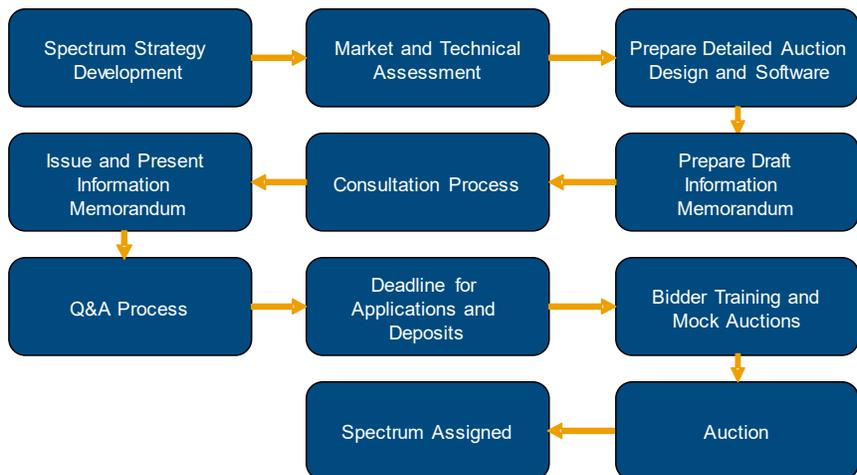
Source: Coleago Consulting

The key features were a market and technical assessment phase which included a detailed, bottom-up spectrum valuation exercise performed for each of the incumbents in Tanzania to ensure that Reserve Prices were set at appropriate levels (see below). The market assessment also included a review of potential competition measures including the use of spectrum caps. In keeping with International best practice, the process included industry stakeholder consultation. The auction itself was performed using an Electronic Auction System to ensure security, transparency and efficiency and time was allowed for bidder training and the testing of connections. A back-up procedure was also in place in the event of catastrophic IT failure.

Allow sufficient time

Regulators should allow a minimum of 12 months for a successful assignment process

The entire process required 12 months to complete and during our post auction review with the TCRA we both concluded that a longer project duration would have been ideal. A longer consultation period would have been helpful as well as allowing greater time from publishing the final Information Memorandum to requiring the submission of applications from Bidders would also have been beneficial. There were other areas of the process that were time pressured and often these related to securing the appropriate Ministerial approvals. The experience from Tanzania would suggest that Regulators should allow a minimum of 12 months and ideally longer for even a relatively simple assignment exercise such as was the case in Tanzania.

Consider competition issues

Post auction competitiveness is a key consideration when designing the auction process

One key feature of the process was a review of the market structure in Tanzania and a consideration of potential post-auction outcomes. A number of auction scenarios were considered and reviewed from a competition perspective. The result of the assessment was the introduction of spectrum caps which were designed to ensure that the auction did not result in an excessive concentration of spectrum which could have distorted competition. It was also decided to not set-aside spectrum specifically for new entrants and so it was interesting that the process did still result in a new, local entrant to the market.

Impose coverage obligations to achieve policy objectives

Coverage obligations are a key tool for supporting the attainment of policy objectives

The propagation characteristics of 700 MHz spectrum make it suitable for providing wide area mobile broadband coverage. In order to support the country's broadband aspirations, coverage obligations were imposed on successful bidders. The coverage obligation was calibrated to promote the extension of broadband access whilst not being so demanding as to destroy all potential value in the spectrum secured by successful bidders. The TCRA sought to balance the promotion of increased coverage whilst also creating an environment that supported investment and innovation.

Understand the value of spectrum to potential bidders

Understanding the value of spectrum to bidders is critical to the success of the Auction

There have been many examples of partial or total auction failure in Africa. In a depressingly large number of African examples either no or only some of the spectrum was successfully assigned. Our review of these auctions highlighted that in nearly all cases an excessively high auction Reserve Price was the main cause of auction failure. We, along with the TCRA, were determined not to make the same mistake.

Coleago performed a detailed, bottom-up spectrum valuation modelling exercise for each of the incumbent operators in Tanzania to understand the value of spectrum to potential bidders. In performing the valuation exercise, we also considered the coverage obligations which were to be imposed so that the valuations reflected licence conditions. The use of a modelling exercise resulted in much more accurate spectrum valuations compared to the usual approach of relying on auction benchmarks from other markets. This exercise allowed the TCRA to set a Reserve Price that we

expected to ensure that all spectrum would be sold. One of the main success factors in Tanzania was setting an appropriate Reserve Price.

Adopt the simplest and most appropriate auction design

The results of the market analysis phase and the TCRA's goal of achieving economic efficiency led to the conclusion that an auction was the most appropriate assignment mechanism. A Simultaneous Multi-Round Ascending Clock Auction was implemented which provided the simplest auction format to meet the goals of the project. As there were some questions around potential levels of demand the design also included an Alternative Auction Procedure in the event of limited demand.

Minimise confusion and ambiguity

In addition to our work with Regulators, Coleago has also worked extensively for many mobile operators advising them on spectrum valuation and auction bidding strategy in response to Information Memoranda published by other Regulators. A major challenge for mobile operators is that often the information published by regulators is confusing and ambiguous resulting in challenges in valuing spectrum and deciding how to bid. To ensure that operators could value the spectrum as accurately as possible and to have confidence in their bidding strategy we strived to write an Information Memorandum which was as simple and as clear as possible. The process agreed with the TCRA also allowed for consultation on the draft Information Memorandum as well as a Question and Answer process following publication of the final version.

Summary

The Tanzanian spectrum auction was a success and will support future socio-economic development in the country. The key success factors for other Regulators to consider can be summarised as:

- Focus on long term policy objectives;
- Follow a robust process;
- Allow sufficient time;
- Consider the consequences for future competition;
- Use a bespoke modelling exercise to understand the value of spectrum;
- Set appropriate Reserve Prices;
- Adopt the simplest possible auction design; and
- Strive for clarity and minimise confusion.

How Coleago can help

In supporting the TCRA, Coleago relied heavily on our years of experience of working closely with operators to understand how licence obligations impact the value of spectrum. Our experience has allowed the TCRA to implement a process and determine licence obligations which we believe achieves an appropriate balance between assignment revenues, regulatory policy objectives and ensuring that global operators regard Tanzania as an attractive destination for their investment. Coleago would be delighted to explore how our experience in Tanzania and with operators can support other Regulators in successfully managing the process of spectrum assignment.

About Coleago Consulting Ltd

Graham Friend, M.A., M.Phil., (Cantal), ACA, is an economist and the Managing Director and Founder of Coleago Consulting. Coleago is a specialist telecoms strategy

consulting firm and advises regulators and operators on issues relating to spectrum, regulation and network strategy. If you would like to discuss any of the issues raised in this paper, then please contact Graham.

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