

**AN APPRAISAL OF GSM
TELECOMMUNICATIONS SERVICES DELIVERY
IN LAGOS AND OYO STATES OF NIGERIA**

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ABSTRACT

The study appraised the quality, volume and the capacity of the telecommunications facilities of the GSM Service Providers in Lagos and Oyo States of Nigeria. This was with a view to developing strategies for improved service delivery in the industry.

The study covered all areas of operation of MTN, CELTEL, GLOBACOM and M - TEL in Lagos and Oyo states. Data were collected on Key Performance Indicators (KPIs) such as conversational voice quality, call setup success ratio, call retention ratio, and short message service (SMS) transmission success ratio using questionnaires. International Telecommunications Union (ITU) specifications were used for evaluation. One thousand (1,000) respondents (500 MTN; 250 CELTEL; 150 GLOBACOM and 100 M - TEL subscribers) from each state were randomly selected. Secondary data such as type and location of Base Transceiver Stations (BTS) and other transmitting and receiving facilities were collected from the Service Providers' websites. In addition, physical inspection of the facilities was made. Data were analysed using descriptive statistics.

The study showed that 100% of the BTS of all the Providers used Macro Cell Antennae with no one using Micro, Pico and Umbrella Cell types; making the mobility management operations of the GSM Service Providers abysmally poor. Also, about 60% of the Macro Cell Antennae were concentrated in the residential areas. The results showed that CELTEL had the best score in Oyo State (1.96), and M-TEL in Lagos State (2.55) for voice quality measured on a 5-point mean opinion scale. Furthermore, the interconnectivity call setup success ratio was low (CELTEL = 17.1% in Oyo State;

GLOBACOM = 19.2 % in Lagos State) as against the international minimum standard of 98% of attempted calls. However, the interconnectivity call setup success ratio was fair (CELTEL = 36.5% in Oyo State; 47.7 % in Lagos State) compared to minimum standard of 99% of attempted calls. The call retention ratio was above average (CELTEL = 66.6% in Oyo State; 69.3 % in Lagos State) compared to the minimum standard of 98% of successful setups. Furthermore, the short message services delivery efficiency was the best with CELTEL having 72.1% and 74.3 % in Oyo and Lagos States, respectively, as against the minimum standard of 98 % of attempted transmissions. The number of subscribers for MTN increased by 1,582 % between year 2001 and 2006 without a matching increase in the facilities provided. The forecast results also showed the increment to be 6,125 % by the end of 2011.

The study concluded that in both states, the quality of voice and message services provided were below International Standards due to inadequate capacity of the telecommunication facilities to match the growth in service demand and inappropriate blend of cell antennae.